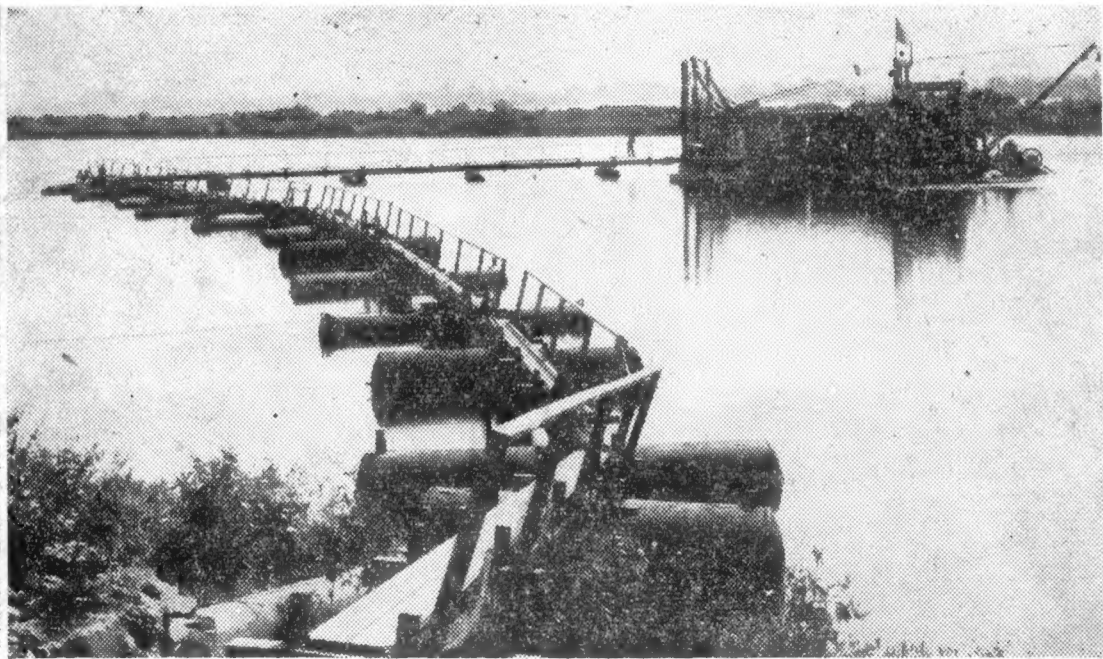


Cleaner Water from the Delaware



Electric power dredge pumping silt and mud out of the Torresdale basin through 15-inch steel pipe to basin on low lying land

CLEANING FINISHED AT WATER WORKS

**\$205,800 Torresdale Job
Assures Purer Flow,
M'Laughlin says**

Clearer, purer water will flow from the spigots in Philadelphia homes even though freshets muddy the Delaware River.

This assurance was given today by Martin J. McLaughlin, chief of the Bureau of Water, with the announcement that cleansing of the sedimentation basin of the Torresdale Water Works, which supplies the greater part of the city's drinking water, has been completed at a cost of \$205,800.

First Time in 28 Years

The project, begun last August by the Eastern Engineering Co., of Atlantic City, entailed the removal of 420,000 cubic yards of mud, the accumulation of 28 years. It was the first time the basin had been cleaned since it was constructed in 1916.

The work was started and completed without interfering with the normal operation of the big plant. To avoid oil contamination of the water supply and clogging of the filter beds, an electrically-operated hydraulic suction dredge was used to stir up the mud.

The mixture of water and silt was drawn into a 15-inch pipe and pumped in a semi-fluid condition to dumping grounds, which, incidentally being lowlands, were brought up to grade. The dumping grounds were encircled by a 20-foot dike 3,500 feet in circumference.

Lessening of Solids

Engineers, somewhat to their surprise and much to their satisfaction, discovered early in the project that turbidity of the water was not increased and noted after a few days a considerable lessening of the amount of solids carried to pre-filters.

The Torresdale basin is separated from the Delaware River only by a dike. The dredge was floated into and out of the basin through a gap made in the dike. The dike was closed as soon as the equipment passed through.

McLaughlin said the project cost 49 cents a cubic yard, compared to \$2.50 a cubic yard when the Belmont basin was cleaned during WPA days. In that project, clam dredges were used and the mud was carted away in trucks.

BASIN DREDGED BY NEW METHOD

Remains in Operation While 27 Years' Mud Is Sucked Out

Some 420,000 cubic yards of mud were removed from the sedimentation basin of the Torresdale pumping station while the basin remained in operation, it was revealed yesterday.

The plan was worked out by John H. Neeson, Director of Public Works, and Martin J. McLaughlin, chief of the Water Bureau.

Usually Take Out of Use

In such operations, a sedimentation basin usually is taken out of use. Neeson and McLaughlin recognized this would be impossible at Torresdale, which supplies a great part of Philadelphia's drinking water.

So they devised the idea of cleaning out the mud by means of an electric suction dredge while keeping the basin in operation.

The dredge stirred up the silt and mud and then drew the mixture into a large pipe, through which it was pumped to a dumping ground.

Gap Made in Dike

The problem was to get the dredge into the bed, which is separated from the Delaware River by a dike. A gap was made in the dike and the dredge floated in, after which the gap was sealed. An electric dredge was decided upon to prevent contamination of the water by oil used in other type dredges.

The winning bid for the job was submitted by the Eastern Engineering Company, of Atlantic City.

The mud and silt removed represented an accumulation of 27 years, according to a spokesman for that company.

Water Meter Savings

THE Bureau of Municipal Research advises those who do not receive their city water through meters that it would pay them to do so.

There are about 235,000 unmetered city water services, dating mostly from before 1918, when the city began to require all new consumers and the old heavy consumers to be metered, but left it to the others to decide for themselves whether they would install meters.

It appears that the initial outlay for a meter and its installation, plus repair bills, plus the charges for metered water, are likely to come to less than charges based on the number and kind of fixtures through which water is taken.

General metering it is true, would reduce city income, but it would also reduce operating costs, since less water would need to be pumped and treated. But something more important is involved. Using the water available from present sources instead of wasting it reduces the need to incur the huge capital costs of reaching out to new sources to make certain that the city will have enough water.

So the consumer who meters is helping himself both as consumer and as taxpayer. As the Bureau points out, if the city is allowed to charge sewer rents based on water rents, the savings from metering will be considerably larger.

TOP STATE COURT TO RULE ON CITY SEWER RENTALS

Tribunal Hears Arguments in Taxpayer's Suit Against Ordinance

Special to The Record

PITTSBURGH, Sept. 27—The fate of Philadelphia's sewer rental ordinance—and the city's long-overdue \$42 million sewage disposal program—was placed in the hands of the State Supreme Court today.

The court heard arguments on a taxpayer's suit challenging the validity of the rental plan, which is designed to finance the sewage disposal program. The rentals, based on water consumption, were upheld last spring by Common Pleas Judge Gerald F. Flood. The case came to the high court on appeal.

Plan Hit as Unfair

Arguing against the rental ordinance today, J. W. McWilliams, counsel for the Philadelphia Real Estate Board—one of some 30 groups which intervened in the suit—contended the plan is discriminatory and unfair.

He argued particularly that the rates place schools and charities in a preferential and privileged position because they enjoy special reduced water rates.

"It is illegal and unconstitutional," McWilliams said, "to take money from the taxpayers and subsidize schools and charities."

Count on Favorable Decision

City Solicitor Frank F. Truscott denied there was any inequity. He explained the purpose of the rentals is to make the sewer system self-supporting so the city can borrow money for the sewage disposal program. The city's authority to incur self-liquidating debt is unlimited, but its general borrowing capacity at the present time is only a few millions.

City officials have been counting on a favorable decision by the Supreme Court. City Council is even now preparing to float an \$8 million councilmanic loan for a start on the disposal program, anticipating that it will be absorbed later by a \$42 million self-liquidating loan.

SEWER RENT APPROVED BY HIGH COURT

Levy Will Finance New \$42 Million Program

By EDWARD STONE

The State Supreme Court yesterday approved the city's proposed new sewer rent.

The rent is intended to finance construction of a sewage-disposal system and end the city's pollution of its water sources.

Tax Burden Raised

Subject to a minor legal step, the long-awaited court decision does two things: It gives the all-clear to a \$42,000,000 program of new plants to treat raw sewage before dumping it into the Delaware and Schuylkill rivers. It also is expected to free nearly \$50,000,000 of the city's borrowing power for other needed improvements.

So much for the credit side. On the debit side, the new rent will add the equivalent of about 18 cents per \$100 of real estate value at the beginning, and about 30 cents ultimately, to the tax burden of real estate owners.

Also, the \$42,000,000 program will force the city to spend \$18,900,000 of its own money which forward-looking action years ago would have brought the city as a gift from the Federal Government. Before the war, the Public Works Administration was offering 45 percent grants and 55 percent low-interest long-term loans, for public improvements. The city administration's reluctance to accept "Democratic" funds forfeited both those benefits.

Work May Be Delayed

By the terms of the sewer-rent ordinance, the new levy takes effect on January 1 following the borrowing of money or the letting of construction contracts. Ordinarily, that would be next January 1. City Councilmen, however, are considering postponing the levy until March 1, due to anticipated delays in starting work.

The amount of the new sewer rent depends on the amount of the present water rent paid by different classes of property owners. Where a property has a water meter, the sewer rent runs from one-half to the full amount of the water rent. Most business houses and other large water users will pay the one-half rate as sewer rent. The average home owner will pay the same sewer rent as his full water rent, which now is \$8 a year. Non-metered properties will pay the same sewer rent as water rent.

Gradual Increase

However, since the sewage-disposal program will take several years to finish, and the full sewer rent will not be needed at once, the new levy will start at 60 percent of the full amount the first year, and rise by 10 percent a year for each of the next four years.

The new sewer rent is expected to produce \$3,600,000 the first year, and increase annually to \$6,000,000 a year in the fifth and later years. Real estate taxes

Continued on Page 15, Column 5.

SEWER RENT OKAYED BY SUPREME COURT

(Continued From First Page)

By EDWARD STONE

roughly are figured to yield \$1,000,000 for each five cents per \$100 of assessment. Hence \$3,600,000 in real estate taxes would require an 18-cent increase per \$100 of assessment, and \$6,000,000 would take a 30-cent jump.

The new levy thus contradicts the recent statement of City Council's Finance Chairman, L. Wallace Egan, that Council does not intend to increase tax rates or impose new taxes next year.

City Ready to Proceed

The city is ready to go on its sewage-disposal program as soon as the final legal step is taken, Public Works Director Martin J. McLaughlin said.

That step is court approval of a request to declare the proposed \$42,000,000 program and the city's present sewer debt, self-liquidating. It is a necessary step because the city does not have that much free borrowing power and can float a \$42,000,000 loan only if revenue from the system suffices to pay carrying charges.

According to City Solicitor Frank F. Truscott, the city will file its petition for that purpose in Common Pleas Court within a few days. In view of the Supreme Court decision, a favorable ruling is anticipated.

Hailed by Mayor

Mayor Samuel hailed the court's decision as "one of the greatest advances in the history of Philadelphia." He expressed hope that the city may obtain financial aid for the program from the Federal Government and the State, thus relieving the burden on the city.

In its decision, the Supreme Court dismissed an attack on the new rent by John J. Gericke, a taxpayer, in which the Philadelphia Real Estate Board and other real estate and business groups joined. Gericke, a Federal employe, of 2537 S. 16th st., contended the levy was discriminatory. Last March, Common Pleas Judge Gerald F. Flood upheld the levy as legal. The Supreme Court sustained Judge Flood.

The sewer-rent ordinance was passed by City Council April 20, 1944. It was Council's third effort to find a legal form of rent. Two prior "rents," adopted in 1940 and 1941, were knocked out by the court as being merely disguised real estate taxes.

Court Upholds City Sewer Tax

In a far-reaching decision, the State Supreme Court yesterday upheld the city's right to impose a sewer tax and paved the way for an early start on the municipality's proposed \$42,000,000 sewage disposal program.

The decision, handed down by Justice William B. Linn, brushed aside all legal objections raised in a taxpayers' suit against the sewer rent ordinance and pointed out the city had authority under acts of the State Legislature to collect a tax to finance the construction and maintenance of a sewer system.

MAYOR HAILS DECISION

Mayor Bernard Samuel hailed the court's ruling as "one of the greatest advances in the history of the city."

The decision, he said, "will make it possible for the city to go ahead full speed on the municipal sewage disposal program, which will com-

Continued on Page 2, Column 2

Continued From First Page

pletely eliminate the city's pollution of the Schuylkill and Delaware Rivers and will give the city borrowing capacity for sorely needed improvements."

The tax, which presumably will be levied early next year, will be based on the amount of water used within a property.

HOW TAX WILL OPERATE

Owners of small properties, such as the average home, will be required to pay a sewer tax equal to the amount of their annual water bill, while large water users, principally industrial establishments, will pay proportionately less down to a minimum of 50 percent of their water rent.

The tax, however, will not become completely operative until the sewage disposal program is finished. During the first year, the sewer charge will be 60 percent of the water rent with a 10 percent increase each year until the full amount of the levy is reached.

PLANS 95 PCT. COMPLETE

Thus if the tax is levied next year, the full assessment will not become effective until 1950, at which time the proposed sewage treatment plants and a network of intercepting sewers are expected to be completed.

Martin J. McLaughlin, Director of Public Works, announced that plans were about 95 percent complete, and that work could start early next year.

"The plans are now before the State Sanitary Water Board," he declared. "And we expect their early approval."

\$8,000,000 AVAILABLE

Of the proposed \$42,000,000 sewer expenditure, \$8,000,000 is immediately available through a Councilmanic loan. Whether the remaining \$34,000,000 will be spent for sewer improvements will depend on the vote of the people at next year's election.

Director McLaughlin said that \$7,000,000 of the fund available would be used to reconstruct and add to the present sewage disposal plant at Wheatshaf lane and Richmond in the Northeast. The remainder—\$1,000,000—will be spent to construct intercepting sewers to carry sewage to disposal plants.

2 OTHER PLANTS PLANNED

If the electorate approves plans to spend the additional \$34,000,000, Mr. McLaughlin said, two other sewage disposal plants will be erected, one in the southeastern section of the city, and the other in southwest Philadelphia. Provision also will be made for intercepting and sanitary sewers.

Besides providing a green light for a start on the sewage improvement program, the court's decision marks another phase in the city's struggle to clean up both rivers. Completion of the sewage disposal plants will end the dumping of sewage in both streams.

TURNER JUBILANT

Ellwood J. Turner, chairman of the Inter-State Delaware River Basin Commission, declared the decision was "one of the most gratifying and helpful things that has happened for some time in the program to clear the Delaware River."

City Controller Robert C. White, while pointing out that imposition of the sewer tax "will be tantamount to an increase of 18 cents in the real estate tax rate," declared that the effect of the ruling would be to give the city a constitutional borrowing capacity of about \$50,000,000 in the near future.

MUST PETITION COURTS

"This money," he said, "will be available for post-war public improvements along the lines recommended by the City Planning Commission."

Although the effect of the decision will provide the city with new borrowing power, actually the city will have to petition the courts to have both the existing and proposed sewer debts declared self-supporting.

City Solicitor Frank F. Truscott said he planned to present his petition in Common Pleas Court within the next few days.

Incentive to Meter

FOR most small users of Philadelphia water the charges are lower if measured by the quantity that flows through a meter than if based on the number and type of outlets through which it is taken.

Nevertheless, about half the city's water services are unmetered, apparently because property owners, balancing the lower annual cost with a meter against the expense of installation, hesitate to make the change.

The next time the owner of an unmetered property makes that comparison the meter side of the scale will be more heavily weighted. The new sewer rents are to be based on water rents, and the property that pays higher water rent because it is unmetered will likewise pay higher sewer rent.

Full metering of Philadelphia has been long urged by experts both for conservation and for fair distribution of waterworks costs; but practically no legal compulsion to meter has ever been put on the owners of small properties. With the added incentive to metering given by the sewer rents, substantial progress may now be made toward the desirable goal of 100 per cent metering.

At Last a Move for a Better Water Supply

A Commission of experts to determine how Philadelphia can best obtain better water and a vote by the people to support or reject the Commission's conclusions:

That is Mayor Samuel's plan for settling the perennial problem of water supply, and it is unquestionably a good one.

As he points out, two questions, both concerning water, have long agitated the public mind in this city. One is the improvement of our drinking water, the other the cleansing of the Delaware and Schuylkill Rivers, which are now the source of our water supply.

The clean-stream program is being pushed with great vigor both here and in Harrisburg and every effort will be made, regardless of where Philadelphia may go for its water, to rid the two rivers of their pollution and prevent further discharge into them of sewage, silt and industrial wastes. That is the first requisite.

Whether, having proceeded to make our

present water sources less filthy, this city should continue to draw its supply from them or go to upland streams has been a debatable subject for years and one that the Mayor's new Commission will be asked to examine.

The findings of past Commissions will be reviewed, available new sources will be studied and recommendations will then be submitted to the Mayor and Council.

With full information before them, including the estimated cost of new construction and possible methods of financing it, the voters will be able to approach the matter intelligently and determine by ballot what course the city shall take.

As it is now—and has been for many years—Philadelphians merely complain about the water supplied them and hope that some day, somehow, it will be more palatable. The Mayor's program opens the way at last for an efficient and democratic disposal of an age-old Philadelphia problem.

THE BULLETIN POLL

Majority here Want Water Supply that Won't Require Chlorine

Most Home Owners Concede Filtration would be Needed, Even if Upland Source is Obtained

By PAUL TRESCOTT
(Of The Bulletin Staff)

Philadelphians, a great majority of whom want the city to obtain its water from a source other than the two rivers but believe that cleaning the rivers would give a satisfactory supply, apparently want to avoid use of chlorine.

A majority concedes that filtration would be necessary, even of upland water, but only three in every ten believe that the addition of chlorine would be necessary. On both these questions there is a large segment of the public which is now uninformed.

On the filtration question, 31 per cent didn't know whether filtration would be necessary; 57 per cent felt it would be, and 11 per cent thought not. On chlorination, 38 per cent didn't know; 32 per cent thought it would not be needed, and 30 per cent that it would be.

When interviewers for The Bulletin Poll asked these same people whether they thought charges for city water are reasonable or unreasonable, half said "reasonable." Eighteen per cent felt charges were unreasonable and the remainder didn't know.

When they were asked how they

thought charges for water here compared with rates in suburban areas, the group lacking information was even larger. Four per cent thought city rates higher; 47 per cent, lower, and 49 per cent didn't know.

On these questions there was the same difference in opinion between Democrats and Republicans as has been noted on other phases of the water question.

An indication that water troubles are not entirely the fault of the supply was given in responses to this question: "Have you had any trouble with rusted or clogged water pipes in your home within the last two years?" Forty-eight per cent had, and one per cent didn't know. Oddly enough, such trouble also seems affected by politics.

The results, broken down along political lines:

	Yes	No	Know
Republicans	41%	51%	1%
Democrats	51	48	1

A number of those interviewed expressed the hope that water meters would be installed citywide, and when each person interrogated in this poll was asked whether he had a water meter, 54 per cent said yes; 40 per cent, no, and six per cent didn't know.

Wissahickon Cocktail

A BULLETIN poll indicates that 17 out of 20 Philadelphians are dissatisfied with Philadelphia's water, but that on the question what should be done about it there is great confusion.

A substantial majority think the solution is a clean-up of the two rivers, but a substantial majority also think, somewhat inconsistently, that the city should get its water from other sources.

For these latter the Wissahickon Creek has popped up with some interesting data. It is blamed by the Water Bureau for the temporary addition of a distinctive and unpleasant taste to the Schuylkill water. The cause cited, an abnormally severe winter and an abnormally warm spring, operating on gases and soluble organic matter, are beyond prevention, and the Water Bureau admits the cure is beyond any arts at its command.

In the visions of those who would go up and back to the mountains for water, the sources that would be tapped are doubtless just such idyllic streams as the Wissahickon. It is sensible to realize that they, too, have gases and soluble organic matter and weather to do tricks with them.

Philadelphia has a right to expect better water, but is doomed to disappointment if it sets its sights too high. Perfect water, undoctored by nature or man, with never a lapse, is not obtainable.

Mayor initiates over all plan to improve city water supply

By SAM LAFFERTY

A water commission, to outline what could be expected from improvement of the city's present water supply and to recommend sources of supply outside the city, was appointed by Mayor Bernard Samuel today.

The commission will study all data collected over past years and blueprint the future course to be followed by the city.

SULLIVAN AT HEAD

Ernest V. D. Sullivan, president of the Terminal Warehouse Co., will be chairman, and Samuel H.

Rosenberg, secretary to the mayor, will be secretary.

In announcing the appointments, Mayor Samuel said:

"Preliminary studies having been completed for our postwar public works program, in process

of preparation by the City Planning Commission, the Water Commission will review all data on hand, and, assisted by technical experts, make definite and final recommendations to be submitted for the reaction of the voters of Philadelphia at the polls."

The mayor added that he thought the people should have all the facts and an estimate of the cost involved before being asked to vote on a program. In this connection he emphasized that he considered it imperative that the commission offer alternative recommendations and not limit itself to just one plan.

OUTSIDE SOURCES

Mayor Samuel also wants it to recommend sources of supply outside the city, showing the cost, quantity and quality and suggest methods for financing.

Sullivan, chairman of the commission, is 53 years old and resides at 520 E. Sedgwick st. He

is president of the Terminal Warehouse Co., Philadelphia Piers, Inc., the Terminal Transportation Co., the Quaker City Cold Storage Co., the Terminal Commerce Building, Inc. and the Camden Terminals & Refrigerating Co.

The other members of the commission are:

John H. Neeson, director of public works; Martin J. McLaughlin, chief of the bureau of water; Frank F. Truscott, city solicitor; Frederick D. Garman, president of city council; Phineas T. Green, member of city council; Grover C. Ladner, orphan's court; Robert H. Remmey, Jr., Richard C. Remmey Son Co.; Lee Ellmaker, publisher, DAILY NEWS; Gilbert J. Kraus, Esq., vice president and general counsel, Philadelphia Record; Robert McCay Gren, Esq., assistant general manager Philadelphia Inquirer; Herbert W. Goodall, president, Tradesmen's National Bank; William H. Harmon, president, William Sellers & Co., Inc.; Joseph Burke, president, Building and Trades Council of Philadelphia and Vicinity; James H. Allen, executive secretary, Interstate Commerce Commission on the Delaware River Basin; Earle W. Barber, president, Philadelphia Real Estate Board; George Cushing, president, United Businessmen's Association; Thomas Malton, regional director, American Federation of Labor, and Harry Block, president, Philadelphia Industrial Union Council.

PHILADELPHIA DAILY NEWS, SATURDAY, APRIL 28, 1945

WATER COMMISSION NAMED BY MAYOR

20-Man Board will Map Program for Action by City's Voters

Mayor Samuel today announced the personnel of a Water Commission of 20 members, whose duty will be to study the water situation and recommend to the voters a course to be pursued by the city.

In naming the commission members, the Mayor said he felt it was important that alternative recommendations should be made by the commission, as follows:

"First, set forth in detail what could be expected from the improvement of the present source of supply in adequate quantity and quality of water required by the city, showing the cost.

"Second, a recommended source or sources of supply outside the city, showing the cost, the quantity and the quality of water which would be received from them, and the method suggested to finance the undertakings."

The Mayor said the commission will review all reports on hand, and, with the aid of technical advisers, make final recommendations for approval or disapproval of the electors at the polls, probably in 1946.

"The commission," the Mayor

said, "will also examine all data in the files of the Department of Public Works and its Water Bureau, and all other surveys, reports, estimates and study relative to its inquiry.

"In determining whether or not an improved present water source would insure a better quantity and quality of water, the commission will consider the improved and increased facilities in pumping stations, filtration plants and extended distribution being undertaken in the current \$18,000,000 water service project.

"I have in mind the preparation of a definite program to be known as the Philadelphia Plan for Improvement of its Water Supply. I hope to see this plan adopted and carried into execution by the city."

Ernest V. D. Sullivan, president of the Terminal Warehouse Co., was named chairman of the commission, and Samuel H. Rosenberg, executive secretary to the Mayor, was named secretary.

Other Members

The other members are:

John H. Neeson, Director of Public Works; Martin J. McLaughlin, Chief of the Bureau of Water; Frank F. Truscott, City Solicitor; Frederic D. Garman, president of City Council; Councilman Phineas T. Green, Judge Grover C. Ladner, Robert H. Remmey, Jr., Richard C. Remmey Son Co., Lee Ellmaker, publisher, Daily News; Gilbert J. Kraus, vice president and general counsel, Philadelphia Record; Robert McCay Green, assistant general manager, Philadelphia Inquirer; Herbert W. Goodall, president Tradesmen's National Bank; William H. Harmon, president William Sellers & Co., Inc.; Joseph Burke, president Building & Construction Trades Council of Philadelphia and Vicinity; James H. Allen, executive secretary Interstate Commission on the Delaware River Basin; Earle N. Barber, president Philadelphia Real Estate Board; George Cushing, president United Businessmen's Association; Thomas Mallon, regional director American Federation of Labor, and Harry Block, president Philadelphia Industrial Union Council.

City Appoints Body to Study Water Supply

Sullivan Chairman Of Group That Will Recommend Steps

Mayor Bernard Samuel yesterday announced the names of 20 members of a Water Commission created to study all available data on the city's water situation and to make recommendations for steps to be taken in the future.

Ernest V. D. Sullivan, president of the Terminal Warehouse Co. and consultant in this area for the Federal Surplus Property Commission, was named chairman, and Samuel H. Rosenberg, executive secretary to the Mayor, was designated as secretary.

WILL REVIEW ALL DATA

Mayor Samuel asserted that the new commission would review all previous recommendations for the improvement of Philadelphia's water supply; examine data in the Department of Public Works files and all other reports and estimates relative to its inquiry, and, with the aid of technical advisers, make final recommendations for approval or disapproval at the polls, probably in 1946.

In stressing that he felt the commission should make its own alternative suggestions, he declared that the body should:

"First, set forth in detail what could be expected from the improvement of the present source of supply; in adequate quantity and quality of water required by the city, showing its cost.

SOURCE OF SUPPLY

Second, give a recommended source or sources of supply outside the city, showing the cost, the quantity and quality of water which

could be received from them, and the methods suggested to finance the undertakings."

He added that the commission, in determining "whether or not an improved present water source would insure a better quantity and quality of water required by the city," should consider "the improved and increased facilities in pumping stations, filtration plants and extended distribution being undertaken in the current \$18,000,000 water service project."

WORK DELAYED BY WAR

The project was authorized several years ago, but work on it has been delayed by the war.

Mayor Samuel further stated that he "has in mind the preparation of a definite program, to be known as the Philadelphia Plan for the Improvement of its Water Supply," and said he wished to "re-emphasize the importance of the project and its bearing on the future" of the city.

The project, he said, "is part of our post-war plan, and no time should be lost in the preparation and execution of plans that will establish our place permanently as a leader in industry and commerce and improve living conditions in our city."

OTHER MEMBERS OF GROUP

Other members of the water survey commission are:

John H. Neeson, Director of Public Works; Martin J. McLaughlin, chief of the Bureau of Water; Frank F. Truscott, City Solicitor; Frederic D. Garman, president of City Council; Councilman Phineas T. Green, Judge Grover C. Ladner, Robert H. Remmey, Jr., of Richard C. Remmey Son Co.; Lee Ellmaker, publisher Daily News; Gilbert J. Kraus, vice president and general counsel, Philadelphia Record; Robert McCay Green, assistant general manager, The Philadelphia Inquirer.

Also, Herbert W. Goodall, president, Tradesmens National Bank; William H. Harmon, president, William Sellers & Co.; Joseph Burke, president, Building and Construction Trades Council of Philadelphia and Vicinity; James H. Allen, executive secretary, Interstate Commission on the Delaware River Basin; Earle N. Barber, president, Philadelphia Real Estate Board; George Cushing, president, United Business's Association; Thomas Mallon, regional director, American Federation of Labor, and Harry Block, president, Philadelphia Industrial Union Council.

The Philadelphia Inquirer

Sunday
April 29, 1945

Water Commission

IN appointing a Commission to recommend a water supply program for the city, the Mayor states the problem fairly. The Commission is to look into the feasibility of acquiring new sources, but the Mayor does not underemphasize the possibilities of making present sources satisfactory.

So far as new and necessarily distant and expensive sources are concerned, the Commission will probably be able to learn all it needs to know from reports that already line the library shelves. It will read there that there is no water from any source that would not require doctoring, and the cost figures that would spring out will have a sobering effect.

No one can lightly recommend that the city sink perhaps \$100,000,000 in new sources if there is any possibility of avoiding it. Nor will any recommendation calling for such expenditures mean anything unless the Commission tells where to get the money.

This Commission will encounter one new factor of major importance—a determination already strong and constantly growing stronger to rid the Delaware and Schuylkill of their pollution. The likelihood that conditions which now make these streams objectionable as water sources will presently be remedied can hardly fail to weigh heavily with the Commission.

WCAU THREATENS TO EXHIBIT CITY'S IMPURE WATER

Will Use Big Magnifying Bottles to Arouse Public Unless Mayor Acts

Impurities in Philadelphia water are going to be put on public exhibition unless something is done soon to give the city some decent drinking water, Dr. Isaac D. Levy, chairman of the board of radio station WCAU, threatened last night.

In a radio speech, Levy said that unless prompt action regarding the water problem is taken by Mayor Samuel and a committee he recently appointed to investigate water, WCAU will purchase 12 bottles made of strong magnifying glass.

Plans to Use Six Trucks

"They will be 10 feet tall and 45 inches in diameter," he said. "We proposed to get six large flat-bottomed trucks and place two of these bottles on each one of the trucks.

"We will then announce to the people at different times and in different parts of the city we will bring the finest radio artists obtainable and put a show on. While this show is in progress, we will fill one of the bottles on each truck with city water. The other bottle will be full of fine drinking water from outside of Philadelphia.

Drinks to Be Offered

"We will have on the trucks attendants in white with ladles, and they will fill glasses from the bottles filled from our present water system. And we will ask the people of Philadelphia to drink.

"They drink this water now, but after they have seen through the large magnifying bottles the impurities that float in our water, I think they will be aroused to action."

Attacks Referendum Plan

Levy attacked Mayor Samuel's proposal calling for a vote of the people to decide whether they want to spend more money for better water.

He said: "It's like asking your wife if she wants a new hat for Easter after she's been dragging you past hat stores for weeks."

How Much Water?

THE new Water Commission will find itself studying the quantity as well as the quality of water that can be taken by the city from the Delaware and Schuylkill. And in past reports it can get plenty of instruction on how to avoid going wrong on the amount that will be needed.

A Water Commission that reported in 1924 put the average daily consumption at that time at 325,000,000 gallons and estimated that in 1975 the figure would be 500,000,000.

But in 1944, 20 years later, the consumption averaged only 320,000,000 gallons a day. Summer conservation campaigns have been effective, but the savings from them have probably been more than offset by increased demands of war industries. One thing the 1924 Commission may have overlooked is the saving possible through detecting and stopping underground leaks. The latest pitometer survey is credited with saving 2,700,000 gallons a day.

Another way to go wrong is to overestimate the city's future growth. A survey in 1914 predicted a population of 3,095,000 in 1950—leaving over a million to go in the present decade. Statistics like that easily build up a false case for acquiring additional sources.

The firm of engineers that advised the city in 1940 believed that with proper conservation measures, including universal metering, the present sources were adequate for a population of 2,500,000.

Penna. Co. Willing To Lend Funds To Purify City Water



WILLIAM F. KURTZ

The radio crusade by Isaac D. Levy, chairman of the board of the WCAU Broadcasting Company, to improve Philadelphia drinking water received strong support last week from the head of one of the city's largest financial institutions.

William Fulton Kurtz, president of the Pennsylvania Company for Insurance on Lives and Granting Annuities, was reported to have written a letter to Levy in which he stated that the Pennsylvania Company was willing to finance the undertaking with a \$100,000,000 loan to the city. The interest rate would be set at a low 2½ percent and would require a Sinking Fund payment of 2 percent, costing the city only \$4,500,000 yearly.

Kurtz' letter was only one of hundreds Levy received following his threat to carry his pure water fight "to the people through his

(Continued from Page One)
radio station."

Levy's radio blast at the impurities in the water and the poor condition of city's pumping facilities marked the first time that a broadcasting station in this area took an official stand on a controversial subject. It was viewed by many as a direct challenge to Philadelphia newspapers which have blown hot and cold on the subject for years without achieving any noticeable results.

Percy C. Madeira, Jr., president of the Land Title Bank and Trust Company, in a letter to Levy stated, "I lived in an apartment in the city last winter and I was completely disgusted with the quality of the water I was compelled to drink."

A letter from Ellis Gimbel stated that years ago Charlie Hall, then a Councilman, had promised that Philadelphia would have pure, clean water and nothing has been accomplished.

Meanwhile, Levy announced that he plans to carry the pure water fight to the people in another radio broadcast next Friday night. Levy

said that city authorities would be given a reasonable length of time to carry forward recommendations for improving the water situation. If definite action was not taken Levy planned to carry his fight directly to taxpayers with trucks carrying samples of city water in large bottles which will be exhibited throughout the city.

Council last week approved an additional fund of \$50,000 for repairs at pumping stations after Martin J. McLaughlin, chief of the Bureau of Water, declared that he had asked for \$100,000 during the drafting of the budget but received only half the amount. City Council's Finance Committee also approved an additional sum of \$40,000 to purchase alum and chlorine to purify the water supply.

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BEVERAGE NEWS
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Credit Is Due Mayor on Water Commission

The Mayor has acted wisely in appointing a Commission to recommend a water-supply plan. For many years Philadelphia has badly needed a sound, comprehensive water program.

Without agreement as to its future course, particularly the sources from which water will be taken, the city can never be certain that steps toward improved distribution facilities within the city will not turn out to be costly mistakes. Worse than that, as the Knowles report of 1940 puts it, "The possibility of going to other sources of supply has been the principal cause of deferring necessary improvements to the present system."

Looking over the work of past boards and commissions that have advised on water supply, the present Commission may see some importance in taking all the time it needs for careful study. A Board of Engineers appointed in 1920 had a 50-year plan ready in two months.

A Commission appointed February 14, 1924, presented a 50-year plan on May 22 following, which it supplemented with supporting data on September 13. The Technical Committee of the Mayor's Water Commission of 1937 made its report 30 days after it was appointed. It had had time only to describe past proposals and its only recommendation of consequence was that "a comprehensive survey be authorized to consider the Philadelphia water supply problem in all its broad phases."

Such facts may help to explain why proposals made in past studies have not had more substantial backing.

The new Commission will have reason to wonder whether its predecessors have not overestimated the amount of water need-

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ed in the future. From 1890 to 1900 the city's population grew 24 per cent; from 1900 to 1910, 20 per cent; from 1910 to 1920, 18 per cent.

The 1920 Commission estimated a population of 3,250,000 by 1970. The 1937 Commission, contemplating an increase of only 7 per cent from 1920 to 1930, estimated 3,100,000 by 1980. The Knowles report, early in 1940, estimated a population of 2,500,000 in 1965.

The present Commission is faced with a slight decrease in population from 1930 to 1940, and with facts strongly indicating that growth in the metropolitan area may be destined to occur more in the suburbs than in the city itself.

The new Commission will observe in past reports a strong disposition to accept pollution of the Delaware and Schuylkill rivers as something to retreat from rather than to fight.

Thus the 1924 Commission found the Schuylkill pollution bad and growing worse, and recommended that the Schuylkill be abandoned. And the 1920 Commission, believing that pollution at the Torresdale intake would later make the water undesirable at that point, proposed that when that time arrived the city should move its intake up the river.

The present Commission may not be quite so willing to urge that the city go to great expense to run away from pollution. A new public attitude may encourage it to see greater possibilities of freeing the rivers from their contamination.

This issue has a vital bearing on whether the city needs to go anywhere for water of acceptable quality except to the two rivers that flow right through its yard.

WATER PROBLEM TO BE STUDIED

Commission Names Subcommittee to Report on Technical Advice

-To facilitate the study of the city's water supply problem, a five-man subcommittee has been named by the recently appointed Philadelphia Water Commission to "report on the technical advice which the commission will require."

Announcement of the subcommittee appointment was made yesterday by Ernest V. D. Sullivan, chairman of the commission, following a meeting in Mayor Samuel's office.

The Members

Its members are: Herbert W. Goodall, president of the Tradersmens National Bank, chairman; John H. Neeson, director of the Department of Public Works; Martin J. McLaughlin, chief of the Water Bureau; James H. Allen, executive secretary of the Interstate Commission on the Delaware River Basin, and Joseph F. Burke, president of the AFL Building and Construction Trades Council.

The subcommittee, Sullivan stated, will receive advice from "competent engineers to be selected immediately to study the all-important question of future sources of supply for water consumers of the city."

Want People to Choose

The entire efforts of the commission, Sullivan declared, will be to give Philadelphia's citizens, "in the shortest possible time," a chance to vote on whether they wish to continue receiving their drinking water from the present heavily polluted source or from new sources outside the city.

But first, he promised, the commission will provide the electors with full information on:

1. "What could be expected from the improvement of the present sources of supply in adequate quantity and quality of water required by the city, and showing the cost," and (2) "a recommended source or sources of supply outside the city, showing the cost, quantity and quality of water which would be received from them, and methods suggested to finance the undertaking."

ENGINEERS WILL STUDY CITY WATER SUPPLY

Electors to Decide on Question of Selecting Sources

Immediate employment of competent engineers to study the question of a suitable water supply for the city was decided on at a meeting of the Philadelphia Water Commission yesterday, according to Ernest V. D. Sullivan, chairman.

A subcommittee was named to determine what technical advice the commission will require. This subcommittee will be headed by Herbert W. Goodall and will include John H. Neeson, Director of Public Works; Martin J. McLaughlin, Chief of the Water Bureau; James H. Allen and Joseph F. Burke.

"The electors will decide whether they favor improved utilization of local water sources or the utilization of upland sources," Sullivan said.

The decision will be made after the voters have been informed what each plan would cost.

Voters to decide on water source

By HERBERT D. REIS

Philadelphians will decide at the polls whether a new water supply is to be brought from a source outside the city. This important agreement was reached by the newly organized water commission at a meeting in the mayor's office, which terminated with a definitely formulated policy.

Ernest V. D. Sullivan, chairman of the commission, emphasizing there would be no unnecessary delay in the work of the new agency, announced that the question of employing present sources or resorting to a new means of supply will be left to the voters.

As evidence of the commission's intention of speedy investigation the chairman announced the selection of a subcommittee, which will receive technical advice, from varied available sources, including the engineering profes-

sion. This subcommittee will in turn report to the water commission. The members appointed to the fact finding committee are Herbert W. Goodall, banker; John H. Neeson, director of public works; Martin J. McLaughlin, chief of the water bureau; James H. Allen, executive secretary of the interstate Delaware river basin commission, and Joseph F. Burke, representing the Building and Construction Trades Council. Goodall will serve as chairman of the subcommittee.

CITIZENS TO GET DATA

Data which will be furnished to the citizens, before the referendum, will include the cost of improving the present water supply, and the expense which would be involved in bringing a supply from outside Philadelphia.

"I wish to emphasize the policy of the administration in respect to the water situation as it now presents itself," said Sullivan. "I am determined that the source of Philadelphia's water supply for all types of users should be settled at the earliest possible moment. I feel that the electors, who, after all, must make the choice and pay the bill, should be fortified with adequate information before they are called upon to decide their preference as to the source."

"When the water commission and its technical advisors have

gathered sufficient data to present an up-to-date picture and a time has been chosen for the electors to decide their preference, we hope there will be an outpouring of citizens, to the end that the decision at the polls will have been made practically by all the people."

Aside from the costs of the alternative propositions—betterment of the present source or creation of a new supply—methods of financing both plans will be studied and publicly announced. Suggestions from private citizens were invited by the commission.

Unit Is Named To Study Water

The Philadelphia Water Commission yesterday named a sub-committee to supply it with technical advice on the improvement of the city's water supply.

The sub-committee, with Herbert W. Goodall, president of the Tradesmen's National Bank and Trust Co., as chairman, was directed to study possible improvement to the city's existing source of supply or to recommend a new source.

Costs and methods of financing will also be studied by the sub-committee, whose creation was announced by Ernest V. D. Sullivan, chairman of the commission.

PUBLIC INFORMED

The commission also unanimously agreed, Mr. Sullivan announced, that competent engineers be selected immediately to study Philadelphia's water problems. The sub-committee will serve as a sort of liaison group between these who are studying the water question.

Their first job will be a study of the water surveys already in the records. Mr. Sullivan said that suggestions will be accepted from consumers and that the public will be kept informed on the matter.

When sufficient data is gathered, he said, the water question will be submitted to the vote of the people.

Dr. Stokes Warns City on Water; Chlorine Won't Kill Infantile Virus

For 20 years or more, city officials have been insisting that however bad Philadelphia's water tastes and smells, it is safe to drink. As proof, they point to the insignificant typhoid rate—only five or six cases a year, compared with the epidemics at the turn of the century, before the water was filtered and dosed with chlorine.

Last night, a nationally known medical authority stood before a radio microphone and bluntly stated that far from being safe, Philadelphia water is actually dangerous—and becoming constantly more so. He blamed it for this city's recurrent epidemics of diarrhea and warned that it is a probable carrier of infantile paralysis and epidemic jaundice.

The authority was Dr. Joseph Stokes, Jr., medical director of Children's Hospital, professor of pediatrics at the University of Pennsylvania and consultant to the Secretary of War. He spoke over Station WCAU as the guest of I. D. Levy, chairman of the board of WCAU Broadcasting Company,

Read editorial, "Infantile Paralysis Needs No Priorities."

who has been waging a radio crusade for a new, clean water supply.

Dr. Stokes, challenging Mayor Samuel either to obtain a new source or "learn how to get more germs out of our filtered sewage," conceded that typhoid fever is licked.

Nor did he dispute the city administration's claim that the treated water contains less colon bacilli (intestinal bacteria) than U. S. Public Health standards allow—even though he noted that the raw water contains as many as 200,000 per teaspoonful.

The danger, he said, comes from "a new group of germs called viruses"—deadly micro-organisms too small to be seen in the microscope and too fine to be filtered out, which he declared are not killed by the chlorine in our city water.

"One of the germs causes infantile paralysis," he said. "Another causes epidemic

Continued on Page 4, Column 2.

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jaundice. Like typhoid fever, the diseases caused by these germs can be caught in other ways than by drinking water. This is true of infantile paralysis in particular, which is probably transmitted by contact or flies.

"But we know that enormous numbers of these germs of infantile paralysis and epidemic jaundice can be present in sewage coming from the intestinal tracts of those who have these diseases. We also know that the chlorine in our city water doesn't kill these germs.

Must We Drink This Water?

"Why should we, Mr. Mayor, be asked to drink filtered sewage, this city water of ours, which is sure to have in it germs of infantile paralysis and epidemic jaundice?"

"Why do we have to subject our children, year after year, to filtered sewage, which you are not disinfecting with chlorine, because you can't disinfect it with chlorine in the amount that we can drink? Chlorine in our water will not kill these viruses."

"It may be asked," Dr. Stokes continued, "just how many cases of these diseases is our filtered sewage causing"—and he conceded there is no way of knowing. But then, he pointed out, there was no way to determine how many cases of typhoid fever were caused by the polluted water supply in the days before filtration and chlorination. But the citizens knew the sewage was in the water and one day they marched to City Hall to demand action.

Cleaned With Chlorine

"And when they got it cleaner with chlorine," he added, "the typhoid fever suddenly dropped."

(An examination of U. S. Public Health statistics for the past nine years by The Record shows Philadelphia's infantile paralysis history is no worse proportionately than that of other large cities.)



DR. JOSEPH STOKES, JR.

In our water, "germs of infantile paralysis and epidemic jaundice."

Dr. Stokes said the annual epidemics of diarrhea here have become so common that the malady has come to be known as "the Philadelphia disease"—and medical research has shown that some epidemic diarrhea comes from the viruses.

Most doctors, he added, believe "Philadelphia disease" is one of the virus types of diarrhea. If so, our recurrent epidemics "may well be controlled or almost wiped out by giving us pure water."

Asks Mayor for Proof

"You must prove to us, Mr. Mayor," Stokes said, "that the viruses we know we are drinking are not causing this Philadelphia disease. This is our just right as citizens of the last big city in the United States to accept filtered sewage for its daily diet."

This past winter and spring, Stokes related, there was an epidemic of jaundice—first in Trenton, then in Roebing, then in Philadelphia and then in Chester, each one a little farther down the polluted Delaware.

"You, Mr. Mayor," he said, "cannot tell us that the epidemic of jaundice was not caused by our filtered sewage. The facts are against you. This virus has been shown to travel in water when the water has filth and sewage in it, and the chlorine in our Philadelphia water cannot kill it."

In an interview elaborating on the broadcast, Dr. Stokes explained that jaundice is the major epidemic disease of this war. It is a far greater menace among the armed forces than venereal disease; tens of thousands of service men are stricken with it every year and it is one of the highest causes of death.

Interest Not Political

"The medical profession is sick

of having its efforts to improve our water situation tagged 'political,'" he said. "Our interest is in the health of the community, not its politics.

"But then it is proof that the condition of the water scares our city officials when they double the chlorine content during infantile paralysis epidemics.

"The chlorine makes the water and our food so distasteful that it upsets us physically and psychologically."

In his election campaign in 1943, Mayor Samuel scoffed at the suggestion there was anything seriously wrong with the city water. He hewed to the official line that it was absolutely safe—although in his own office he drinks bottled distilled water—and dismissed all criticism as politically inspired.

Water Commission

In his inaugural speech in January, 1944, however, the Mayor promised to appoint a water commission to study the whole problem and then let the people decide whether they want a new source of supply.

There have been any number of such studies in the past, and almost without exception they recommended a new source in the upper Delaware, the Perkiomen or some equally clean stream. Samuel finally appointed his commission in April, and a month ago it set up a subcommittee to determine what technical advice it will need.

Introducing Dr. Stokes on the radio last night, Pure Water Crusader Levy snorted at the latest commission. He declared what is needed is not another survey but "the courage of our elected offi-

cials to put the health of the citizens above everything else, at least for once."

"Nothing Happens"

"The public officials of the city of Philadelphia have had millions to spend for everything but pure water," Levy said. "There have been many commissions appointed for this purpose since 1866. All of them have studied the problem again and again and nothing has happened.

"Meantime, the sewers of Philadelphia are pouring into the Schuylkill and Delaware Rivers refuse and waste which float around the intakes of our water system.

"In the history of Philadelphia, not one Mayor has done anything about it, but all have promised."

Virulent and Vigorous

Virus (from the Latin word meaning a slimy liquid or poison) is a disease-producing micro-organism, a lower form of parasitic life than bacteria. Viruses cause some of the most annoying and some of the worst diseases known, ranging from the common cold to poliomyelitis (infantile paralysis), jaundice, smallpox, encephalitis (sleeping sickness), rabies, ornithosis (the disease with which the City Hall pigeon flock is infected), and virus pneumonia.

Apparently the only way to eliminate them from contaminated drinking water is by boiling or, if you have the equipment, distilling. Or you can do like City Hall and buy bottled water—if you can get it and can afford it.

Physicians are reasonably sure that boiling for 10 minutes will kill all micro-organisms.

Board of engineers is named to study new water source

The appointment of a board of five engineers to investigate four new possible sources from which the city can obtain unchlorinated, yet healthful, drinking water was announced by the Philadelphia water commission last night, shortly before a vicious attack, unsupported by fact, was broadcast against the city's present water system.

Declaring that more than \$175,000 will be spent during the next 13 months in which the investigations will be made, the commission spokesman said the engineers would survey the adequacy and sanitary possibilities of four sources — the Delaware River Yardley Project, the Upper Lehigh River Basin Project, the Upper Delaware River Basin Tributary Project, and the Upper Delaware River Project-Tocks Island.

COSTS

Approximately \$135,000 will pay the investigation costs of engineers Charles A. Emerson of New York; Nathan B. Jacobs of Pittsburgh; Joel D. Justin, Philadelphia; Gustav J. Requardt, Baltimore, and Francis S. Friel, Philadelphia.

In addition, another \$40,000 will be spent for chemical analysis of samples taken from each of these sources, which will have to meet the rigid specifications of the department of health.

One of the important elements of the investigation will be the adequacy of the source, whether it will produce sufficient supplies to warrant an expenditure of several millions to pipe it into Philadelphia homes.

The men involved are all expert water-supply engineers. The preliminary report they will draw up will be completed within four months and it will eliminate from contest all sources which will not prove satisfactory for physical reasons.

INCITE PARENTS

Meanwhile, enemies of the administration who have been hiding a political feud behind a scientific fight against present water systems in the city, exploded their disreputable castigation of local water sources, designed, without any apparent proof, to incite local parents to riot.

Bringing a nationally known medical authority before a radio microphone, they shocked all listeners with a statement that the water supply now in operation is a probable carrier of infantile paralysis and epidemic jaundice.

Never before has such an outrageous statement, unsupported by factual proof, been foisted upon the public. The expert, Dr. Joseph Stokes, Jr., medical director at the Children's hospital and professor of pediatrics at the University of Pennsylvania, blatantly made the statement, of which he admitted there had been no chemical proof, merely because he said chlorine in water does not kill infantile-paralysis bacteria. However, he did not say that an analysis of city water showed the presence of the virus.

THEORETICAL BELIEFS

Dr. Stokes based his entire argument on theoretical beliefs that the diseases could be spread by water, just as much as they could be spread by the water of any other city, or the water at any common, public bathing beach.

That recent epidemics of diarrhea have been spread by viri in drinking water is an accepted were caused because Philadelphia's water is filtered river water. Many cities use exactly the same type of water purification and do not run into the epidemics that this city has weathered because of its overcrowded homes and neighborhoods.

Dr. Stokes' tirade of last night is damnable considering the ef-

forts the city administration has made to find some cure for our water troubles. Joining with a group who are supposedly crusading for improved supplies, he is guilty of trying to throw the city into turmoil without cause or justification except that it will create dissension among the public, regardless of the mental anguish it might cause mothers of small children.

9-MONTH STUDY

Part two of the proposed investigations, the commission said, will take nine months and will include studies of present water sources and comparison with sources to be found upland and the comparative value of the contemplated improvements.

They will include subsurface explorations, hydroelectric and multiple use studies, land and water costs, capital and operating costs and rights of the city to obtain these sources.

Engineering studies, according to Ernest V. D. Sullivan, chairman of the water commission, will be directed by Director of Public Works John H. Neeson, Martin McLaughlin and James H. Allen.

The finance committee, headed by Herbert W. Goodall, consists of Frederic D. Garman, Phineas T. Green, William H. Harman, Earle N. Barber, Joseph F. Burke, Robert H. Remmey, Jr. and George D., Cushing.

Legal aspects will be handled by Francis F. Truscott, Hon. Grover C. Ladner and Robert McKay Green. Public relations will be controlled by Gilbert J. Krause and Harry Block, under the chairmanship of Lee Ellmaker, editor of the DAILY NEWS.

5 EXPERTS NAMED FOR WATER STUDY

New Sources of Supply, Present City System to be Surveyed

A board of five engineers has been named by the Mayor's Water Commission to make a survey of possible upland sources of water for Philadelphia along with a study of the city's present supply.

The appointments were recommended by the commission's subcommittee, headed by Herbert W. Goodall, president of the Tradesmen's National Bank & Trust Co. The survey is to be completed in nine months at a cost of not more than \$135,000 for salaries and expenses of the engineers.

The cost to the city of certain other work to be done in connection with the engineering studies was estimated at \$40,000. It includes geological investigations, land surveys and appraisals along with chemical, mineral and bacteriological analyses of water.

The engineers recommended for the survey are Francis S. Friel, of Albright & Friel, Inc., and Joel D. Austin, of Joel D. Austin Co., both of Philadelphia; Charles A. Emerson, of Havens & Emerson, New York; Nathan B. Jacobs, Morris, Knowles, Inc., Pittsburgh, and Gustav J. Requardt, of Whitman, Requardt & Associates, Baltimore.

Infantile Paralysis Needs No Priorities

This editorial should not cause public alarm.

It is a warning of what CAN happen, not what necessarily WILL happen.

And a city forewarned should be a city forearmed.

Dr. Joseph Stokes, Jr., nationally known medical authority, sets forth a series of facts which permit only one conclusion:

Philadelphia's drinking water is a potential threat to the health, possibly to the life, of every citizen.

Dr. Stokes, Medical Director of Children's Hospital here and consultant to the Secretary of War, made these points in a radio address last night:

1. Infantile paralysis is a virus disease.
2. Enormous numbers of virus germs can be present in sewage coming from intestinal tracts of those who have the disease.
3. Philadelphia dumps its sewage into the Delaware and Schuylkill, the same streams from which it draws its drinking water.
4. The water is dosed with chlorine, which does kill the non-virus typhoid germ—but chlorine does not kill the viruses.

The same set of facts apply to virus jaundice and virus diarrhoea.

They add up to a grim answer.

* * *

Dr. Stokes does not state categorically that Philadelphia drinking water has caused infantile paralysis.

In fact, U. S. Public Health Department statistics show that polio cases here are no higher in proportion to population than in the ten largest American cities.

But there are many imponderables—polio may be contracted many ways. Epidemics run capricious courses. That's why statistics mean little.

Maybe Philadelphia has been lucky to escape a disastrous epidemic. If so, how long will we continue to be lucky?

Dr. Stokes has adduced a mass of circumstantial evidence—and men have been hung on less in the field of crime—which casts a grave doubt upon the repeated statements of the City Administration that the water, though distasteful, is "perfectly safe."

* * *

Rather than being angered by Dr. Stokes' findings, the City Administration should be stirred to immediate remedial action.

Employed properly, Dr. Stokes' testimony could be a cogent argument in seeking priorities from Washington on materials for improving the water system and sewage disposal systems.

He cites a public health danger no U. S. Government agency can ignore.

Difficulty of getting priorities has been cited time and again for not going ahead with the city's proposed \$18,000,000 water rehabilitation program.

But there's no record that the city really tried hard to get them. Other cities tried and did get them.

Approval of the city's \$42,000,000 sewage disposal program is awaited from the State Supreme Court. That high bench should take cognizance of Dr. Stokes' warning, too, and act promptly.

These two programs, together with unflagging prosecution of the State program to clean up the rivers, will be a first move to provide safe drinking water for the city.

Eventually, however, there must be a long-range program for tapping a new source of pure water supply.

We have a public health threat now. It must be dealt with now.

Let the City Fathers remember that polio requires no priorities.

FIVE ENGINEERS TO STUDY WATER

City Sets Aside Funds for Expert Survey of Supply

Five engineers will be employed by the city to make a complete study of the city's present water supply and possible future sources, Mayor Samuel's water commission announced yesterday.

Employment of the engineers was recommended to the full committee of 20 by a subcommittee of five, headed by Herbert W. Goodall, president of the Tradesmen's National Bank.

\$135,000 Costs Approved

Salaries and expenses not to exceed \$135,000 were recommended by the subcommittee and approved by the full committee.

The engineers are to determine the quality and adequacy of the present water supply from the Delaware and Schuylkill rivers, and probable improvement to be expected if the proposed \$42 million antipollution program is adopted. They also will investigate new mountain sources and what it would cost to bring mountain water to this city.

Voters to Decide

When Samuel named the committee last April, he said that its final recommendations will be presented to the city's voters for a decision.

The engineers to be employed are: Francis S. Friel, of Albright & Friel, Inc.; Joel D. Justin, of Joel D. Justin & Co.; Charles A. Emerson, of Havens & Emerson, New York; Gustav J. Requardt, of Whitman-Requardt & Associates, Baltimore, and Nathan B. Jacobs, of Morris-Knowles, Inc., Pittsburgh. Jacobs participated in a somewhat similar survey several years ago.

Water Scare

STATEMENTS that certain diseases may be caused by Philadelphia's water supply, and challenges to City Hall to prove that they are not, seem more inflammatory and alarming than constructive. They could easily create the impression that responsible city officials, with full knowledge not only of the defects, but also of ways to cure them, are nevertheless callously serving up a product that inflicts unnecessary sickness and suffering on the public.

That, of course, is not a true picture. Philadelphia's water supply problem has never been simple, and if anybody has ever hit upon exactly the right answer, there has never been that backing from the public that would justify City Hall in committing itself heavily to any solution.

Assuming that the water may now be carrying the dread viruses mentioned, what is the answer? Shall Philadelphia rush out and acquire new sources just on a chance that the same conditions might not again be encountered? Decisions of such magnitude need to be based on scientifically demonstrable facts rather than on hunches.

If there is any evidence that Philadelphia water carries previously unsuspected menaces, and that there is any practicable way to avoid them, it would most properly be laid calmly before the Commission which is now undertaking a more comprehensive study of the situation than the city has had for a long term of years.

Get Water Facts Straight

In providing nine months for completion of a survey of water supply sources for Philadelphia, the new Water Commission seems to rule out chances of a public vote on the subject this year. Possibility of a referendum at the November election had been indicated previously, but apparently preliminary study by the Commission has convinced it that more time will be required.

Ernest V. Sullivan, chairman of the Commission, says the members are determined to fix the whole problem of submitting the water supply facts "with a finality that will bring to an end any further discussion of this subject." Certainly it has been discussed and rediscussed to a fare-thee-well over the years—with nothing concrete yet done about it.

The Commission's approach is realistic and practical. It intends to examine the possibilities of existing sources and to find the best upland supplies, and then leave final decision to the people. Of first importance is getting the facts straight, and this is the job now to be undertaken.

PHILADELPHIA
DAILY NEWS

JULY 2, 1945

New Water Sources Vital

S ELECTION of sources of good, pure water for use in Philadelphia will be made following investigations to be conducted by a group of five engineers, who are experts in this type of work. Not only will sources, if more than one is required, be chosen, but the question of piping the water to the city also will be discussed.

Four possible locations are to be checked. They include the Delaware river Yardley project, the upper Lehigh river basin project, the upper Delaware river basin tributary-project and the upper Delaware river-Tocks island project.

Decision to begin immediate work along these lines is the outcome of activities of the mayor's water commission, that recently pointed out the necessity for obtaining new and copious supply of water, which can be used without the necessity of chlorination. Chemical tests will be made to assure the purity of the water.

This action utterly belies the charges of opponents of Mayor Samuel's administration, who asserted that little or nothing was being done, while the present sources of water became worse and worse. No time will be lost on the inquiry, despite the carping of the critics, who declared, among other things, that the water now being supplied has been the cause of much illness.

Although the new supply of water will not be ready for use until 1946, the definite action by the commission in selecting the engineers for the task, as well as arranging for the financial support of the project, leaves no doubt the mayor is determined to test the feasibility of running pipelines from the remote points. This is not a new idea, although it is new for Philadelphia. The works projects administration helped Atlantic City to build new pipelines from the distant watersheds. Los Angeles, metropolis of the west coast, also pipes its water from the Sierra Nevada mountains. There is no reason why Philadelphia should be without an excellent water supply, but the administration has been handicapped by New Deal orders and regimentation.

Philadelphia could use a lot more good, pure water. The board of engineers and Mayor Samuel are going to do their best to get it for the city.

City May Move Water Stations

Phoenixville, Yardley Sites Proposed for Pumping Plants

Philadelphia may solve its water source problem by the simple expedient of moving its present Delaware River and Schuylkill pumping stations miles beyond the city limits, it was reported yesterday.

Engineers who will make a survey for upland water sources consider moving the Torresdale Pumping Station to Yardley on the Delaware, and the Belmont Station to a point near Phoenixville on the Schuylkill, as one of the foremost in the group of suggested projects.

The decision, Herbert W. Goodall, head of a committee that is correlating all phases of the problem, declared, rests entirely on the engineers making the survey.

It was pointed out, however, that this solution hinges on the success or failure of the State's concerted drive to rid Pennsylvania waterways of pollution.

"The State's program to clean up the streams ties in importantly with Philadelphia's water problem," said Mr. Goodall, who is president of the Traders National Bank and Trust Co.

9 MONTHS FOR SURVEY

The engineers, he added, must take into consideration just how much improvement is realized by the pure streams drive and just how it will fit into Philadelphia's drive to supply this city with a \$100,000,000 post-war water system.

As alternatives, the city may tap the upper Lehigh River basin, establish its source of supply in the upper Delaware River tributaries or in the Delaware at Tocks Island, it was announced.

The engineers, whose appointments are expected to be confirmed formally this week, have been given nine months in which to complete their survey.

REPORT TO BE FINAL

Their recommendations will be final, according to members of Mayor Samuel's Water Commission, and as soon as is feasible, work on a pure water system for Philadelphia will be started.

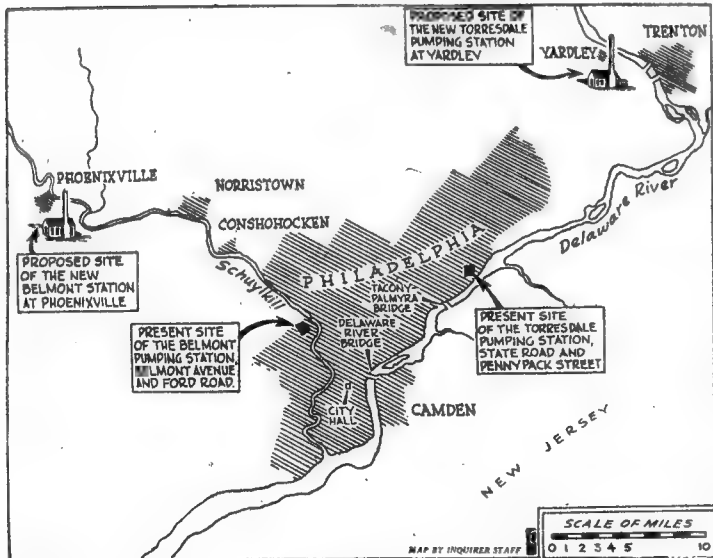
"This requires time. Philadelphia's water system must be so planned that the city will be supplied with water in quality and quantity for the next 100 years," one of the commissioners said.

The survey's subcommittee, in its report to the Water Commission last Friday, recommended that \$135,000 be spent on the nine-month study and that an additional \$40,000 be expended for necessary geological investigations, mapping, appraisals, chemical, mineral and bacteriological analyses.

OTHER SOLUTION POSSIBLE

The engineers' job, according to Ernest E. Sullivan, chairman of the commission, is to determine the adequacy of the present source of supply with enforcement of the anti-pollution program and to find the most suitable upland water source.

These two divisions of study, added Mr. Sullivan, do not preclude any other solution of Philadelphia's water problem from the field of consideration.



SOLUTION OF CITY WATER PROBLEM?

One possible means of solving Philadelphia's perplexing water problem, charted above, is to move the present intakes to Delaware River and Schuylkill sites miles beyond city limits. The State's anti-pollution drive figures importantly in this project.

Due Deliberation

THE nine months which the engineers of the Mayor's Water Commission propose to take to study their problem is in pleasing contrast with the time taken for previous water supply surveys.

In 1920 a Board of Engineers took only two months to formulate a program that looked fifty years into the future. Another fifty-year program was presented in 1924 by a Commission that had been on the problem less than three months. The Mayor's Water Commission of 1937 had a Technical Committee which reported thirty days after it was appointed. Its principal recommendation, as might be expected, was that there be a comprehensive survey to consider the problem in all its broad phases.

Members of such bodies usually have some familiarity with the subject to start with, and that may cut down the time they need to arrive at well-considered conclusions. But on the present engineering board there is also initial acquaintance with the problem, and still the duration of the task is estimated at nine months.

The subject is of such importance that the public could afford to wait even longer if additional time promised a still better job. A few months is a matter of small consequence when stacked up against the danger of a wrong decision costing tens of millions of dollars.

TONIGHT 7.00

WCAU

PANEL DISCUSSION

"PHILADELPHIA'S WATER"

DR. JOSEPH C. DOANE

Medical Director, Jewish Hospital

DR. JOSEPH J. STOKES, JR.

Medical Director, Children's Hospital

DR. ALLISON H. PRICE

Dept. of Medicine, Jefferson Medical College

DR. WALDO E. NELSON

Professor of Pediatrics, Temple Hospital

POLLUTED WATER GETS INTO MAINS, DR. DOANE SAYS

8

O * PHILADELPHIA RECORD, Saturday, July 7, 1945

Polluted Water Gets in Mains, Dr. Joseph C. Doane Declares

CONTINUED FROM FIRST PAGE

the spigot from which I draw my drinking water."

Panel Discussion

Dr. Doane spoke in a panel discussion over Station WCAU with three other prominent physicians—Dr. Joseph Stokes, Jr., medical director of Children's Hospital, professor of pediatrics at the University of Pennsylvania Medical School and consultant to the Secretary of War; Dr. Allison H. Price, of the Department of Medicine at Jefferson Medical College, and Dr. Waldo E. Nelson, professor of pediatrics at Temple University School of Medicine. Isaac D. Levy, chairman of the board of WCAU, acted as moderator.

It was Dr. Stokes who in a broadcast a week ago first warned of the potential dangers from virus diseases in Philadelphia's drinking water. Chlorine in the amounts that can be drunk will not kill the viruses, he said then, and the water is therefore a possible source of infantile paralysis, epidemic jaundice and the recurrent outbreaks of diarrhea known as "the Philadelphia disease."

Elaborates Warning

Last night, renewing and elaborating his warning, he declared city officials recognize the potential danger in the water despite their reassuring statements.

"They openly admitted this potential danger," he said, "when they doubled the amount of chlorine in our city water at the time of the epidemic of infantile paralysis last summer. (Editor's note: City health authorities refuse to call the 1944 outbreak an epidemic. They stress that statistics show that infantile paralysis was no worse here than in other large cities.)

"And they are preparing to do the same thing this year, because of fear of this virus, if an epidemic of paralysis shows any evidence of returning.

"... The people of this city are not fooled, therefore, when we hear officially it is a fine water to drink. Filtered, chlorinated sewage can't be fine water to drink!"

Polio Proof Indefinite

Dr. Stokes conceded it is impossible to say definitely whether any infantile paralysis cases come from drinking water, because nobody knows exactly how the disease travels.

But he said there is one virus which usually causes intestinal disease, "which has been shown to be present at times in drinking water, and which is not killed by the amount of chlorine or by double the amount of chlorine in our city water."

"In about one case out of four

or five of intestinal upsets," he continued, "it will cause jaundice. The other cases may be called intestinal gripe for want of a better name.

"This virus can cause disease in an epidemic wave, and it gets into sewage from the intestinal tracts of those sick with the disease. It has been shown to live in water for over two months at room temperature.

Not Killed by Chlorine

"If this virus is in sewage, it could be in the filtered sewage which is our drinking water, since we know it is not killed by the amount of chlorine in our drinking water. There again, I believe the city officials must agree with us, is a potential danger.

"I believe the citizens of Philadelphia should rise up and demand that these dangers be eliminated by giving us a source of water that is not filtered sewage."

Dr. Nelson said that while it is uncertain to what extent virus diseases are water-borne, "the burden of proof would appear to be on those who maintain there is no danger."

"Irrespective of the fact that the virus agents of infectious hepatitis and of infantile paralysis have been identified in sewage," Dr. Nelson said, "they are still to be identified in the drinking water of Philadelphia or so far as I know in the public drinking water of any other large city.

"The lack of such information, however, cannot be interpreted that they are not present at one time or another.

Water-Borne Problem

"To what extent, if any, diseases are water-borne is an important problem. The solution of this problem is made difficult because of several factors. . . . Infectious hepatitis may occur without demonstrable jaundice and infantile paralysis may occur without paralysis. In fact, there is some reason to suspect that both of these diseases may occur more often in these so-called abortive forms than in their characteristic ones.

"This lack of information of the true incidence of these two diseases is a real deterrent in determining the conditions by which they are spread."

The only kind word for Philadelphia water came from Dr. Price. He suggested that water may be "physically unattractive" and still not be contaminated with disease organisms or poisonous compounds.

"There are very few times during the year," he said, "that I think the Philadelphia water tastes too badly. There has been no evidence here tonight that it is contaminated."

Sludge, Slime, Dead Fish Tell Story, Asserts Hospital Director

Another prominent physician arose last night to accuse Philadelphia's drinking water.

Dr. Joseph C. Doane, medical director of Jewish Hospital and professor of clinical medicine at Temple University School of Medicine, declared the sludge and slime and occasional dead fish found in the spigots can mean only one thing:

"... that somewhere, somehow, direct access to supply lines of river water or reservoir water has taken place"—in other words, that raw, polluted water is getting into the mains.

"If this is the case," he said, "it would seem possible that from time to time dangerous contamination exists."

In any case, he added, "I do not believe that water which contains gross dirt to the extent of our present supply is suitable for our people to drink."

Reactions After Distilling

Dr. Doane revealed that a number of hospitals which distill city water for use in intravenous solutions find "marked reactions of chills and fever" during the summer months.

"It is surmised," he said, "that as rivers supplying the city water system fail, vegetable matter and other so-called pyrogens or fever producing particles concentrate.

"During all of a physician's life he should refuse to jump at conclusions until scientific evidence is so convincing that he cannot avoid accepting its findings. I am unwilling to concede that Philadelphia water causes any of the virus diseases without proof. . . .

"I do know from my observations that in no small quantity, dirt, whether it be bacteriologically dangerous or not, does reach

Continued on Page 8, Column 1.

Mayor Asks \$200,000 To Help Water Survey

Final Choice On Supply to Go to People

Mayor Bernard Samuel yesterday asked City Council to appropriate \$200,000 to employ engineering experts to assist the city's Water Commission in its survey of Philadelphia's water supply.

Pointing out in a letter to Council that the problem of an adequate and potable water supply is of paramount concern to the health and welfare of the citizens, Mr. Samuel urged that favorable action on his proposal be taken quickly.

BACKS MOVE FOR BOARD

The Mayor's request was in support of a recommendation by the commission proposing that a board of consulting engineers be appointed to determine once and for all the source of the city's future water supply.

"The commission has resolved," the Mayor declared, "that the problem of submitting all of the facts concerning an upland source of water supply and the availability and continued use of the present sources of supply (Delaware River and the Schuylkill) shall be fixed with a finality that will bring to an end any further discussion on this subject."

PEOPLE WILL DECIDE

The Mayor said the commission had assured him that when the report was completed all of the facts, including quality and quantity of water and the cost, would be submitted to the people for their consideration.

With data available to them on both upland and present sources of supply, the people then will be in a position to make the final choice, the Mayor said.

"With this information before them," he continued, "they will be enabled to make their own decision on the ballot in the 1946 spring primary election." He explained that preparation and submission of the report before that date was out of the question.

DETAILS ON PROGRESS

Mr. Samuel explained that it was the commission's plan to keep the public advised from time to time on the progress made by the board of engineers. The \$200,000 appropriation, he said, will be taken from the \$18,000,000 loan fund authorized by the electors for improvement of the water supply.

The commission, acting on the recommendation of a subcommittee headed by Herbert W. Goodall, has selected a group of nationally-known engineers to make the survey.

13 COMMUNITIES SUMMONED

They are Francis S. Friel, Philadelphia; Charles A. Emerson, of New York City; Nathan B. Jacobs, of Pittsburgh; Joel D. Justin, of Philadelphia, and Gustav J. Requaardt, of Baltimore.

Meanwhile, it was announced at Harrisburg that 13 anthracite region municipalities have been ordered to appear before the State Sanitary Water Board on Aug. 1 to show why they have failed to report on progress of plans for sewage treatment plans.

Notices to appear were sent to Edwardsville, Exeter, Forty Fort, Jenkins township, Kingston, Nanticoke, Nescopeck, Pittston, Pittston township, Plains township, Plymouth township, Wyoming and Wilkes-Barre.

\$5 MILLION URGED AT ONCE TO REFIT 2 CITY AIRPORTS

Crossan Tells Council That Both Fields Need More Facilities

Philadelphia must spend at least \$5,000,000 on its two airports "to give the city its rightful place on the air map," Councilman Clarence K. Crossan told City Council yesterday.

"Unless we act quickly and comprehensively to develop both fields without discrimination, next January 1 will see the city out in the cold," Crossan said.

Wants Voters to OK Loan

He urged that a loan bill to supply \$2,500,000 apiece for the Northeast and Southwest airports be submitted to the city's voters at next November's election. The Northeast councilmanic delegation made that recommendation recently to Mayor Samuel, he said.

Northeast Airport was opened for service July 1. Southwest, closed at the end of 1943 by Government order for military reasons, was turned back to the city for use early this month. Its personnel and equipment, transferred to Northeast, must be replaced before it can be operated.

Mail Lies in Rain

"In a few years we shall need two, and even perhaps three, airports," said Councilman David Jamieson. "We're not properly on the air map yet. Northeast Airport has been opened 19 days, but seven days were lost because of inefficient contracts awarded by the Civil Aeronautics Administration. Lights have gone out of order, and mail lies around in the rain because of lack of space."

Councilman George D. Mansfield, another Northeast representative, criticized talk of making one airport first in importance, the other second. "Northeast is not a stopgap airport," he said.

Letter From Industries

Council also received from the Northeast Philadelphia Chamber of Commerce a letter demanding "in the name of several hundred substantial industries," the proper maintenance and expansion of the Northeast field. "Two hundred industries within five miles of the airport have definitely stated they want to use it," the letter said.

Council referred the request to its Public Works Committee. To the same committee went ordinances asked by the Mayor for \$60,000 for equipment and \$43,000 for men at both airports, and for the further widening of the Ashton rd. approach to the Northeast field.

Action on Water

The Mayor asked also for \$200,000 to engage expert consulting engineers to investigate present and possible upland water sources, in connection with the survey now under way by his Water Commission. Choice of the two sources will be placed before the voters at the primary election next spring, the Mayor indicated. His request went to committee.

\$5,000,000 IS SOUGHT FOR 2 AIRPORTS

Crossan Asks Referendum in November on Loan to Expand them

A \$5,000,000 loan referendum to finance the expansion of the Northeast and Southwest Airports was proposed yesterday by Councilman Clarence K. Crossan.

He told City Council that the referendum should be held during the general election next November, and added: "Unless we act quickly to develop both fields without discrimination, next January I will see the city out in the cold."

Crossan said that he had suggested the referendum to Mayor Samuel at a recent conference.

Councilman David Jamieson said that Philadelphia has not yet found its proper place on the air map, and Councilman George D. Mansfield, representing the Northeast section, criticised talk of making one of the two airports here more important than the other.

Council received a letter from the Northeast Philadelphia Chamber of Commerce urging maintenance and expansion of the Northeast field. The letter said that 200 industries in the neighborhood plan to use it.

Meanwhile, ordinances affecting the two airports were submitted to Council by Mayor Samuel, and referred to the finance committee.

One measure amends the budget to provide for reclassification of general employes, particularly guards and general laborers, at Northeast and Southwest. Another provides \$43,000 for personnel services. The mayor also asked \$60,000 for additional operating equipment.

He requested \$200,000 to employ engineering experts to help the city's Water Commission in its survey of the water supply.

"The commission has resolved," the mayor said, "that the problem of submitting all of the facts concerning an upland source of water supply and the availability and continued use of the present sources of supply, shall be fixed with a finality that will bring to an end any further discussion on this subject."

Speed Called Essential in Water Study

Facts Sought For 1946 Ballot

Warning that speed is essential in framing a report on sources of Philadelphia's future water supply, Councilman Clarence K. Crossan declared yesterday that the five engineers charged with making the survey must conclude their work by next March to enable the voters to pass on the proposals in the 1946 spring primary election.

City Council's Committee on Public Works recently authorized the expenditure of \$200,000 to employ engineering experts to investigate both upland and local sources of water and report back to the Mayor's Water Commission.

In accordance with Mayor Samuel's promise, the voters will have an opportunity to "settle once and for all" the troublesome water problem by referendum at next spring's election.

MUST ACT QUICKLY'

Councilman Crossan said the report must be finished in time to permit advertising of the proposed referendum. A delay beyond the March deadline, he said, would postpone final decision by the people at least six months.

"I am serving notice now," he said, "that it will be necessary to act quickly on this matter. We don't want to postpone a decision on this important water question a moment longer than is necessary."

ENGINEERS NAMED

Engineers appointed to make the survey are Francis S. Friel, of Albright & Friel, Inc., and Joel D. Justin, of Joel D. Justin Co., both of Philadelphia; Charles A. Emerson, of Havens & Emerson, New York; Nathan B. Jacobs, of Morris, Knowles, Inc., Pittsburgh, and Gustav J. Requardt, of Whitman, Requardt & Associates, Baltimore.

Director of Public Works John H. Neeson praised the engineers as "experts who are well qualified to pass judgment on this important subject." He predicted that the report would be available in time to permit the people to vote on it next spring.

DR. JACOBS HITS 'CHLORINE WATER'

WCAU Chairman Again Scores City Officials for Inaction

Thirty-five centuries after Moses, the "founder" of preventive medicine, recognized the need for pure and adequate water, Philadelphians "are plagued by an impure and inadequate water supply," Dr. Maurice S. Jacobs said last night.

A member of the committee on public health of the Philadelphia College of Physicians, Dr. Jacobs spoke from Station WCAU on the 11th of a series of broadcasts in the interest of better drinking water for the city.

History of Pollution

He cited the long history of pollution of the Delaware River and the Schuylkill and discounted the effectiveness of chlorine in killing all the disease sources that characterize their water.

"Few Philadelphians realize," he said, "that the Delaware River has its origin in New York State, or know that New York City diverts 400,000,000 gallons of water daily from the Upper Delaware Basin. New Jersey also gets a large supply of its water from the same pure source — before it is polluted.

"No, it is only we in Philadelphia who filter the sewage and serve it up to our people as the famous chlorine cocktail."

Again Attacks Officials

Isaac D. Levy, WCAU board chairman and promoter of the pure water crusade, made another attack on city officials for their failure to do anything about it.

He pointed out that last week Mayor Samuel, for the third time in a few months, asked City Council for another \$50,000 to buy more chlorine, alum and other supplies "to disguise sewage so that the people of Philadelphia would think they are drinking water." He also renewed his request that citizens press their demand for improved water on leaders of the Samuel administration.

"ROBERTS ASKS SPEED ON CITY BETTERMENT. Water Problem Most Serious He Says.

Philadelphia must now 'work hard and fast and get things done,' former U.S. Supreme Court Justice Owen J. Roberts said last night in a radio address.

'Our public officials must now see that the plans they have made are executed,' he said, 'and if courage is necessary they must show it.'

Outlines Program -

Roberts discussed the city's needs and outlined a program for meeting them over Radio Station UCAU. He was introduced by Isaac D. Levy, chairman of the board of directors of the station.

'Political parties are of the opinion that they dare not tell the public that it costs money to make improvements,' Roberts said. 'But all the people know that you can't run a city without revenue, and they don't mind the spending if they get their money's worth. The people would be complimented if they only believed that these officials thought they had some sense.'

Water First Problem -

He described Philadelphia's water 'as the most serious problem confronting the city.'

'Water is the sustenance of life,' he said, and when it is contaminated and unfit for drinking purposes, the health of our citizens is in peril.

To attempt to correct our present system by occasionally patching up broken pipes and installing new filtration systems will not solve the problem. Each year more chlorine is necessary in order that water be served to the people with debatable safety. The chlorine may improve our drinking water, but if the source is bad, the water will never be satisfactory to our people.'

Supply in Poconos -

He pointed out that an abundant supply of pure mountain water is available 'at a manageable cost' in the Poconos.

'Philadelphia could draw more than 100,000,000 gallons a day in excess of the 520,000,000 gallons per day consumed during the war years.

'Such a supply could be procured at a cost of about \$150,000,000 and this amount could be financed rapidly by the city if the water rates were increased by only a few cents per person per week,' he said.

Roberts pointed out that Mayor Samuel has asserted that Philadelphians will be given an opportunity next May to decide by ballot whether they want improvements in local water supplies or the use of upstate sources.

FAVORS WATER AUTHORITY -

'It would be well if the Mayor would promptly appoint members to the (water) authority so they could be working in anticipation of the vote of the people on some form of new water supply.'

He pointed out that such an authority could make necessary arrangements for financing and operating a water system in advance. And, 'if, by some miracle, which I cannot conceive, the people decide they do not want any improvement in our water system, nothing will have been lost.' Roberts said.

URGES MASTER AIRPORT -

The former Justice listed as another project of major importance the 'modernization and completion of a master airport,' fitted to handle the tremendous volume of domestic and transoceanic business that 'looms immediately ahead.'

'In order to handle the anticipated traffic, Philadelphia must cease figuring in terms of pennies and dollars when it will require many millions to do an adequate job,' he said. 'Air service is the key to the future in commercial competition. Philadelphia must think big, act fast and stop procrastinating.'



SAMPLING DELAWARE RIVER WATER

Francis S. Friel (left) and Gustave J. Requardt, members of the board of engineers of Mayor Bernard Samuel's Water Commission, watch Frank Gallo obtain a sample of Delaware River water near the Philadelphia-Camden bridge for tests. The engineers toured the river as part of a survey for improving the city's water supply.

NINE ENGINEERS ON TRIP

Aboard The Commonwealth, a Navigation Commission launch, five members of the board of engineers of the Water Commission and four engineer specialists employed by them made the trip to get an overall picture of the actual conditions existing above and below the Torresdale plant in the tidal basin supplying water for this city.

In addition to mid-river observation of the installations and water filter plants located along the Delaware River from Fort Mifflin to Trenton, the engineers, headed by Charles Emerson, chairman, took samples of the river water at various points during the cruise and will have them analyzed later at laboratories.

FIRST-HAND STUDY

"We want to see first-hand the existing conditions of the water supply from every possible angle," Mr. Emerson stated, "so we can compare them with that of possible upland sources. Only then can we recommend an improvement program or the installation of a new source."

Other engineer board members who made the trip were Joel D. Justin, an authority on hydro-electric installations, Gustave J. Requardt, of Baltimore, Francis S. Friel, of Philadelphia, and Nathan B. Jacobs, of Pittsburgh, consultant on the \$18,000,000 rehabilitation program of the Philadelphia Water Bureau.

OTHERS MAKING SURVEY

As employees of the board of engineers, accompanying members of the party were Joseph E. Gill, principal assistant engineer of the Bureau of Water, James H. Allen, of the Incodel project, William D. Williams, executive engineer, and Elwood Bean, chemist and bacteriologist.

In sampling the Delaware River water, the men commented on the pollution of the stream, which, to the naked eye, seemed less in the area near Trenton. Laboratory examinations are required to determine the exact content.

Phila. Water Experts Make Survey of Delaware River

Consultant engineers of Mayor Bernard Samuel's Water Commission supplemented their preliminary studies of an improved water supply for Philadelphia yesterday with a Delaware River survey covering a 35-mile radius of the city.

Martin J. McLaughlin, Director of Public Works and acting chief of the Bureau of Water, authorized the river tour for the engineers, who have been conducting an inland examination of present and possible water sources for the last two months. The first phase of their survey will be completed in the next 90 days, they estimated.





















Doctor Assails G.O.P. on Water

OCTOBER 9, 1945

Opening his campaign for Coroner on the Democratic ticket, Dr. Joseph A. Langbord last night charged that "raw, contaminated water" is being pumped directly into the city's water supply system from the Schuylkill and Delaware River."

In a broadcast to the voters, Dr. Langbord declared that he could state on the "best of authority" that the U. S. Public Health Service, following an inspection of the Philadelphia waterworkers last spring, discovered that raw water was being used "without filtration at the Torresdale plant because some of the filter beds were blocked up by silt and sludge."

OTHER FILTERS BY-PASSED

"I can state on equally good authority," he added, "that the Queen Lane filters are frequently by-passed for the same reason."

"The water is dosed with chlorine—but if chlorine and filtration are not adequate, how much good does chlorine alone do? That is how safe the water is that you're getting from the Republican machine. It isn't fit to drink under any consideration."

EVERY RULE 'VIOLATED'

On the question of water, he added, "the city itself violates every rule of hygiene." The product served the community, he asserted, "comes from a foul and contaminated source, "contending that it is processed with "out-of-date and broken-down equipment."

"It is heavily adulterated with nauseating and potentially harmful chemicals, it is dirty," he declared. "It smells bad and it tastes bad."

MAY BE DANGEROUS

Not only is the water unfit to drink on the "basis of taste, odor and appearance alone, the Democratic nominee claimed, but researches indicate that it may be dangerous because of "dosage of chemicals."

"Illness and death may be lurking in your spigot," he contended.

Asserting that the Republican city administration has done nothing to correct the situation, he added that municipal authorities seem to be "completely indifferent" to the dangers.

PROMISE' ASSAILED

"True, he said, "it (the city administration) does promise now to study the situation and at some future date let the people vote on whether they want pure water."

"It took the present administration two years to decide to have the study made; it took another year and a half to get it started; and at the rate it's going I seriously doubt that our generation will ever get a chance to vote on it."

SPEEDY ACTION PLEDGED

Warning that an epidemic of "water-borne disease" may break out before improvements are made, Dr. Langbord said speedy action can be obtained if the Democratic Party is placed in power in the first step of a three-year political program, which includes the election of a Mayor in 1947.

Pointing out that the Schuylkill and Delaware River, chief sources of the city's water supply, are "contaminated with waste water, sewage, human filth and industrial waste," the candidate for Coroner said that a "heavy dose of chlorine is not sufficient protection against such gross pollution."

Area of Proposed Water Supply Project

COUNCIL GETS PLAN TO TAKE ALL WATER FROM DELAWARE

Wallpack Bend Storage
Reservoir, Intake at
Yardley Proposed

WOULD DROP SCHUYLKILL

Development of a new water supply from the Delaware River and elimination of the Schuylkill is recommended in a preliminary report submitted to City Council today by the board of engineers which conducted a survey for the Water Commission.

The new plan, named the "Yardley-Wallpack Bend Project," is designed to provide 500,000,000 gallons of water daily for a city of 2,400,000 and is estimated to be sufficient for Philadelphia until about the year 2,000.

The engineers, it is explained, are now at work on the second part of the report which covers the final study of the selected source of water supply, with estimates of cost and recommendations as to the adequacy and suitability of the present sources of supply for continued use after completion of the current waterworks improvement program and the projected sewerage and sewer treatment program.

Use of Tributaries

The plan approved includes features of two other studies of the Delaware River, including the use of water from tributaries of the Delaware.

The engineers report the Yardley-Wallpack project would comprise construction of a storage reservoir with a dam at Wallpack Bend above the Delaware Water Gap. Intake works would be built near Yardley and a regulating reservoir at Warrington with conduits for the delivery of water to all filter points.

The water released from storage would travel in the open channel of the Delaware to Yardley, where a tunnel would conduct the water to a pumping station near Nesaminy Creek in the vicinity of Hulmeville. There, pumps would lift 166,000,000 gallons of water daily to the Warrington regulating reservoir.

Provides for Emergencies

The remaining 334,000,000 gallons would be raised to the level of the new coagulating basins at the Torresdale Filter Plant. From the Warrington reservoir, water would flow through a gravity tunnel to Queen Lane station for use at that filter plant and distribution to Belmont and Roxborough stations.

The Warrington reservoir would have a capacity of 43-days' requirements at the rate of 500,000,000 gallons daily and could be used at all filter points in the event of an accident at the Yardley pumping station.

"This project," said the report, "is a combination of part of the Delaware River project and parts of the

(Continued on Page Two, Column Six)

City Water Plan

(Continued from the First Page)

Delaware River-Yardley project, but without the use of the Perkio-men and Tohickon watersheds.

"It was conceived in order to take advantage of the desirable features of both the Delaware River-Yardley project and the Delaware River project by making use of the channel of the river as a conduit and does not in any way interfere with the low water flow of the Delaware."

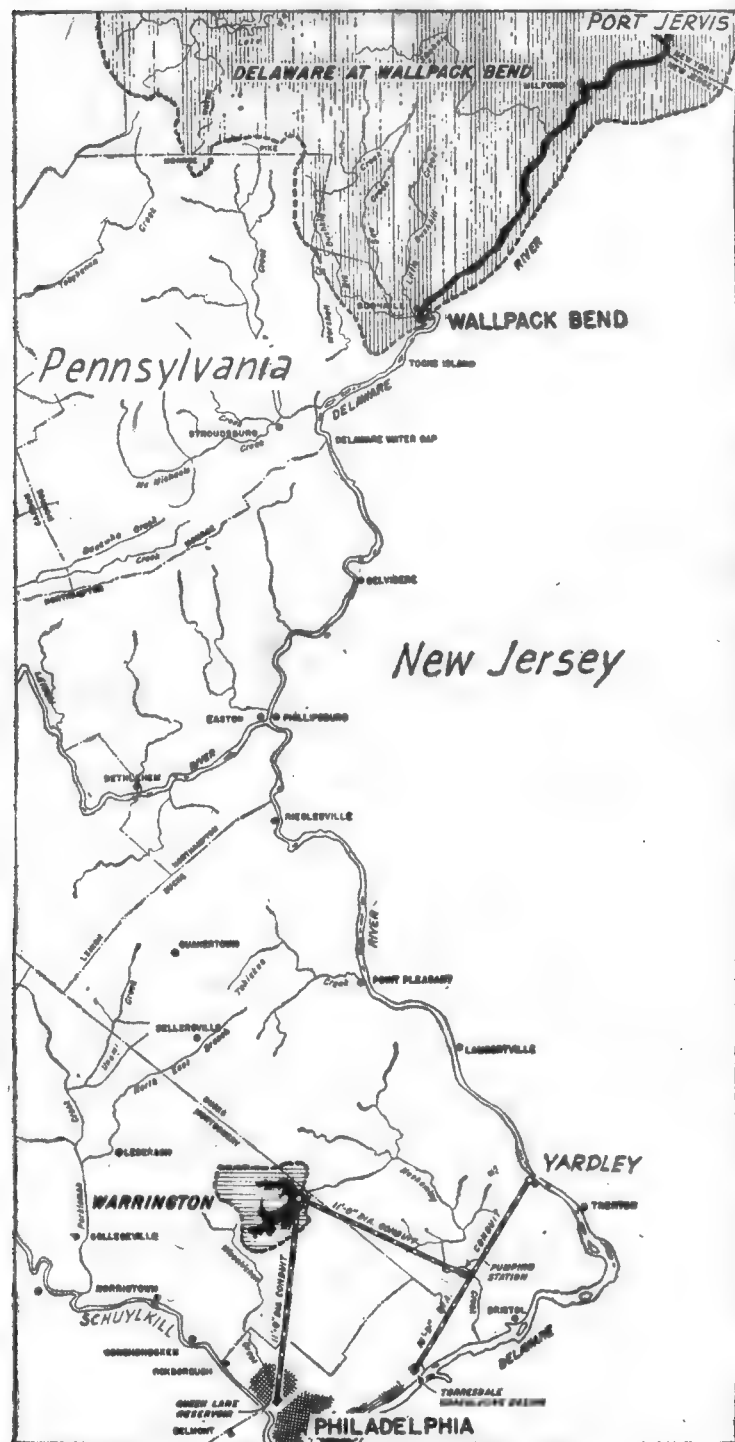
Two Rivers Used Now

The engineers point out that Philadelphia since 1912 has been furnished with filtered waters from the Schuylkill and Delaware Rivers. Present consumption is 350,000,000 gallons daily, of which 55 per cent is taken from the Schuylkill and after treatment at the Queen Lane, Belmont and Roxborough filter plants, is furnished to the portion of the city lying west of Broad st.

The remaining 45 per cent is from the Delaware and after treatment at the Torresdale filter plant is furnished to the city area east of Broad st.

The engineering survey supplements a water improvement program costing \$18,000,000 and the \$42,000,000 sewerage system and sewer improvement for which loans have been authorized and a proposed sewer rental validated by the State Supreme Court.

The engineers who compiled the plan are Charles A. Emerson, Francis S. Frial, Nathan B. Jacobs, Joel D. Justin and Gustav J. Requart.



Storage reservoir with dam would be constructed at Wallpack Bend. The water would travel in open channel to Yardley, thence by tunnel to a station near Hulmeville, where pumps would move it to the Warrington regulating reservoir

NOVEMBER 29, 1945

City Water Policy

ASSUMING that former Supreme Court Justice Roberts is correct in rating water as Philadelphia's most serious problem, it does not follow that the city should attempt a solution without a sound plan based on thoroughgoing study of all aspects.

Steps toward a solution can at least wait until the Mayor's Water Commission has made its report.

There is a widespread notion that to decide what to do about water all the city needs do is look into the reports made by past surveyors; but nothing could be more erroneous. The recommendations of those reports were in conflict, and some of the reports were thrown together so hastily as to inspire no confidence.

Moreover, all past reports have assumed what did not seem so unreasonable at the time, that the pollution of the city's two rivers was forever past remedy. The present Water Commission faces an entirely new factor, for it now seems reasonable to expect extensive river cleansing through the efforts of the city, other communities, the Federal Government, and a more vigorous State Administration.

Back in 1938 Philadelphia gave up the idea of an Authority to handle water supply and sewage disposal, because the city government seemed competent to do everything an Authority could do, at least at as low a cost. There is nothing to be gained now by revival of the Authority technique of solving city water problems.

River Dam Proposed for City Water

**\$100,000,000 Plan
Calls for Tapping
Delaware Above Gap**

Map on Page 25

Abandonment of the Schuylkill as a source of the city's water supply and tapping of the Delaware River 13 miles above Delaware Water Gap were recommended yesterday to Mayor Bernard Samuel's Water Commission.

The Schuylkill now gives Philadelphia 55 percent of its daily consumption of 350,000,000 gallons. Damming of the Delaware at Wallpack Bend, where the river cuts an "S" course through the lower reaches of the Poconos, commission engineers reported, would give Philadelphia a 500,000,000 gallon daily supply.

WOULD COST \$100,000,000

The cost would be upward of \$100,000,000 and the job would take five to six years, according to Charles A. Emerson, one of the board of five consultants.

Herbert W. Goodall, chairman of the commission, instructed the engineers to return at a Dec. 10 meeting with more details on the cost of the project outlined.

This conference, he announced, was solely to acquaint the commission members with the information that had been compiled by the consulting engineers.

YARDLEY-WALLPACK PLAN

Known as the Yardley-Wallpack Bend project, this plan was favored as the "most economical and suitable source of upland water supply for Philadelphia's future."

The intake, the engineers decided, would be in the vicinity of Yardley, with a regulating reservoir near Warrington, Bucks county, and conduits to deliver the water to the city's existing filter plants at Queen Lane, Belmont and Torresdale.

The Yardley-Wallpack Bend project was favored strongly by the engineers, who have spent months studying possible water sources along the Delaware, the Lehigh and their tributaries.

120-FOOT-HIGH DAM

A 120-foot-high dam, Mr. Emerson explained, would build up a storage reservoir reaching some 15 miles back along the river. The land, he said, is virginial, and the loss in real estate would be infinitesimal.

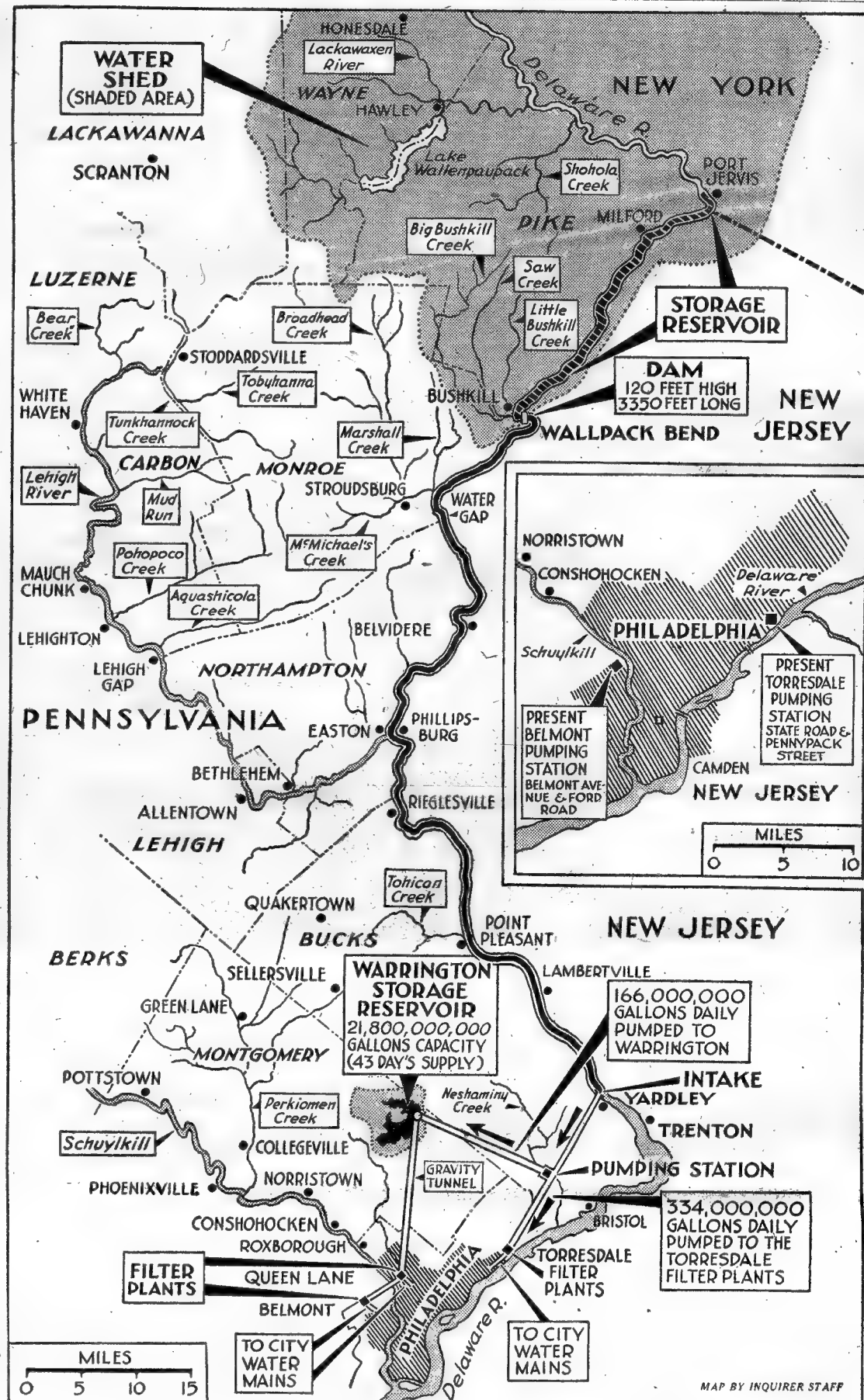
Unlike an alternate plan which calls for a conduit from the dam site into Warrington, the Yardley-Wallpack Bend proposal calls for the water for Philadelphia to be released into the channel of the Delaware, then drawn out at Yardley.

From Yardley the water would be

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River Dam Proposed To Improve Water

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tunneled to a pumping station near Neshaminy Creek in the vicinity of Hulmeville, where separate pumps would send 166,000,000 gallons daily to the Warrington basin and the remaining 334,000,000 gallons to the coagulating basins at the Torresdale Filter Plant.

From Warrington, the water would flow through a gravity tunnel to Queen Lane station with eventual distribution extending to Belmont and Roxborough.

The Warrington reservoir, according to Mr. Emerson, would have a 43 days' requirement at the 500-million-gallons-a-day rate, ready for emergency should trouble develop at the Yardley pumping station. To install this plan, according to the engineers, would require 44.5 miles of tunneling.

POWER POSSIBILITIES

Power plant possibilities are more apparent in the Yardley-Wallpack Bend project, the engineers reported. This phase, however, the city is not yet considering, it was explained.

Emphasizing that filtration is necessary regardless of the city's source of supply, the board of five engineers presented the city with five alternate plans, but regarded Wallpack Bend as the most economical.

Damming the river there, it was pointed out, would give Philadelphia a watershed that runs back into New York State. Five other sites along

the river—Tocks and Manunehunk Islands, Dunnfield, Delaware and Delaware Water Gap—were discarded as dam sites.

TOCKS ISLAND CONSIDERED

Tocks Island, in previous surveys, was regarded as the likeliest location, but, according to Mr. Emerson, later tests proved it to be "inadequate."

The supply from the proposed dam, he said, "would be adequate in volume for future needs, and the quality of the raw water would be better than that now withdrawn from the Delaware at Torresdale," he continued.

Existing filtration and distribution facilities, with improvements, said Mr. Emerson, could be retained.

LEAST COSTLY PROJECT

"In comparison with all other projects studied, the Yardley-Wallpack Bend plan would be the least costly," he continued. "The recommendation of the board is for the development of this project, as the new water supply from upland sources will best serve the future needs of the city in the event it is later decided to abandon the existing sources of supply."

He said that none of the investigated upland water was found to be safe and suitable for general use without filtration.

Few major cities, he said, are piping their water direct to consumers without filtration.

NEW WATER SUPPLY PLAN PROPOSED FOR CITY

Consulting engineers strongly favor the above mapped project, which calls for a dam at Wallpack Bend. From this source, engineers said, Philadelphia would get 500,000,000 gallons of water daily from the Pocono Mountain area. The inset map shows the location of Philadelphia's present water supply.

PHILADELPHIA
DAILY NEWS

NOVEMBER 30, 1945

Philadelphia's New Water Source

Tapping of the Delaware river, more than 10 miles north of the Wallpack Bend in the Pocono's, and the building of a huge dam to build a reserve supply that can be released into the river channel and subsequently picked up at Yardley for pumping into the city's mains to supply a daily quota of 500,000,000 gallons is a project that deserves the most serious consideration.

In addition, it is proposed to construct an auxiliary reservoir in the Warrington basin, with a pumping station near Neshaminy creek, with a 43-day requirement at the rate of 500,000,000 gallons-a-day capacity, for emergency purposes, in the even that anything should develop to curtail the output of the Yardley pumping station.

Under this plan, recommended by Mayor Bernard Samuel's water commission, the Schuylkill river, which now supplies the city with a large part of its water, and the lower Delaware would be abandoned as water sources, assuring a new and fresher flow into the city's mains.

The commission is to be commended upon the manner in which it has accomplished its purpose, that of finding a new source. Its plan, while somewhat revolutionary for Philadelphia, has much in common with the systems used to supply other cities, in that it goes directly to the point where the water can be obtained and provides for methods of bringing it here.

Among the first cities to go outside for water was Camden, which as far back as 1920 was pumping its water from artesian wells in Burlington county, north of the city. Atlantic City is another community which obtains its water from a distant point, known as the Mainland watershed, and pumps it seven miles across the meadows to the resort, while Los Angeles' supply is derived from far up in the Sierras and pumped down into the city.

The new plan will require approximately six years and \$100,000,000 to complete, but at its conclusion it will have been worth all the money and effort expended. The engineering aspects, while tremendous, nevertheless are not insurmountable and present filtration and distribution facilities, with certain modernization, can be utilized fully.

While Mayor Samuel's commission was reporting its water plan, council was being urged to authorize new wide improvements to the Southwest airport, from which one airline already is operating trans-Atlantic flights and another will begin similar service within a short time.

Although the planners stress the importance of improving the Southwest field, they also point out that the Northeast airport must not be neglected, inasmuch as it eventually will be needed as an auxiliary for commercial traffic as well as privately owned planes.

By pushing both the water and airport projects to a successful conclusion, after obtaining public approval, Philadelphia will have gone a long way toward assuring its place as one of the most progressive communities in the nation. For this reason, no time should be lost in getting them underway.

CITY RECEIVES NEW POCONO WATER PLAN

Engineers Call It Least Costly Ad- vanced So Far

By LEEDS MOBERLEY

A new plan for bringing "pure" water down from the Poconos was submitted to Mayor Samuel's Water Commission yesterday by its board of consulting engineers.

Combines Two Older Plans

The plan represents an adaptation and combination of two previous proposals—one drawn up by the Water Bureau in 1930, the other by the U. S. Army Engineers in 1934.

The cost was not estimated in the engineers' preliminary report. Unofficially, it was said it would be "over \$100 million," but nobody would attempt to guess how much more. The engineers said, however, that it would cost less than any other plan put forward so far.

Upper Delaware Supply

Like every other plan for an upland water source, this one contemplates abandonment of the grossly polluted Schuylkill, which now supplies roughly half the city.

But where most proposals call for tapping various upland creeks and tributaries, the new project follows the recommendation of the Army engineers for taking the whole supply from the Upper Delaware.

Flood Control and Power

It would operate indirectly as a flood control measure and would provide, in addition, the water power for a 60,000-kilowatt hydroelectric plant—a plant big enough to serve a good-sized city (though not one so big as Philadelphia). The engineers suggested the power privileges could be sold for about \$6,000,000.

The plan calls for construction of an impounding dam and a 98-billion-gallon storage reservoir at Wallpack Bend, above the Delaware Water Gap near Bushkill, to catch and hold the flood waters of the stream's upper reaches.

It was the Army Engineers' idea to pipe the water down to Philadelphia through an underground conduit. That would require an 80-mile tunnel.

The Water Commission's engineers proposed to eliminate the tunnel and use the bed of the river itself as a conduit. The impounded waters would simply be released into the river again whenever the stream dropped below a certain level.

500 Million Gallons a Day

This would maintain sufficient flow to give Philadelphia the 500 million gallons a day which the engineers estimate will be our maximum need by the year 2000.

Under this plan, Philadelphia would take its water from the river at Yardley, four miles above Trenton, where the Delaware is still relatively clean. (The heavy pollution comes in below Trenton.)

From there it would be taken through tunnels to the Torresdale and Queen Lane filtration plants and to a 22-billion-gallon "regulating" reservoir (big enough to hold 43 days' water supply) at Warrington, Montgomery county. This would require 44½ miles of tunnels.

Plan Up to Commission

It will be up to the commission to decide what plan to recommend to the voters, and it will

Continued on Page 8, Column 1.

CITY GETS PLAN FOR PURE WATER

Engineers Call New Proposal Least Costly Advanced So Far

(Continued From First Page)

By LEEDS MOBERLEY

be some time before there is any decision. The initial reaction to the engineers' proposal, however, was unenthusiastic and even skeptical.

Members of the commission generally seemed to feel that, for psychosocial effect, if for no other reason, the water ought to be piped to Philadelphia all the way from the source. Several of them seemed to favor the Army Engineers' idea for that reason, although there were no commitments.

Chairman Herbert W. Goodall, presiding at a commission meeting in the Mayor's Reception Room yesterday afternoon, said he was "afraid we couldn't sell the people on the idea that water from Yardley is any better than what we have now."

"Couldn't Convince Myself"

"I couldn't convince myself we weren't just taking water out of the Delaware," he added.

The commission met to receive the engineers' preliminary report on an investigation of the various projects for an upland water supply that have been put forward in recent years. They made studies of four advanced, by official and private sources since 1920. Their own plan was the fifth studied.

Acting as spokesman for the engineering group, Charles A. Emerson, of Havens and Emerson, New York, explained the various plans with colored charts and maps.

Other Members of Group

Other members of group are Francis S. Friel, of Friel and Albright; Joel D. Justin, of Joel D. Justin & Co.; Gustave Requardt, of Whitman-Requardt and Associates, Baltimore; and Nathan B. Jacobs, of Morris-Knowles, Inc., Pittsburgh.

One thing about both the consulting engineers' and the Army Engineers' plans that disturbed some of the commissioners was the need for interstate agreements on the Wallpack Bend dam. On motion of Judge Grover C. Ladner, Goodall finally set up a sub-committee to study the legal questions involved in the various plans. It consists of City Solicitor Frank F. Truscott, Lad-



PROPOSED NEW WATER SUPPLY—This is the plan recommended by the board of consulting engineers of the Mayor's Water Commission. An impounding dam at Wallpack Bend (upper right) would catch and hold the Upper Delaware's flood waters in a 98-billion-gallon storage basin. These would be released during low-water periods to maintain an adequate flow in the river and let Philadelphia pump out 500 million gallons a day at Yardley (just above Trenton). Heavy dotted lines represent conduits by which water would be distributed to filtration plants and to the regulating reservoir at Warrington, which would hold 43 days' supply.

ner, former City Solicitor Robert McCay Green, and James H. Allen, executive secretary of the Interstate Commerce Commission on the Delaware River Basin.

Goodall called another meeting for Monday, December 10, at 3 P. M. At that time Emerson promised to have information on comparative costs—not on a dollar basis but on the basis that one project would cost such and such a percentage more than another.

Another Report Planned

In a later and more comprehensive report, the engineers will give detailed cost estimates on the project the commission decides to recommend. They also will show what effect, in their opinion, the stream cleanup programs now getting under way will have on Philadelphia's present sources—the polluted Schuylkill and lower Delaware rivers.

Some time next year, Mayor Samuel plans to call a referendum and let the voters decide whether they want to invest in a new source.

No Water Entirely "Pure"

One point emphasized by the engineers was that, no matter what the source of Philadelphia's water, it would always have to be filtered and chlorinated. Even the "pure" streams of the Poconos carry some pollution—especially during the summer resort season.

The engineers made weekly chemical analyses of water from the suggested sources over a period running from mid-August to mid-October. They also made analyses of our present sources.

They reported that water from any of the upland sources "can be treated by normal purification processes to produce a water of satisfactory quality." They defined water of satisfactory quality as water "free from pathogenic organisms (disease bacteria), attractive in appearance, odorless, colorless, clear, non-corrosive, palatable, and soft."

All Proposed Sources Acceptable

All the sources studied (except the present sources) were found to meet U. S. Public Health Service standards. The Public Health Service holds that coliform bacilli (B coli) should not average more than 5000 per milliliter in any month.

The cleanest water the engi-

neers found was in the Upper Lehigh River Basin, where the B-coli average was only 500. Delaware River water at Wallpack Bend showed an average of 1920; and at Yardley, where the engineers propose to get our future supply, the average was 4570.

Current Sources Unacceptable

By contrast, the water at the present Torresdale intake showed an average of 5720. On three occasions, the B-coli average ran as high as 20,000. At the Shawmont pumping station, on the Schuylkill, the average was 26,200 and three samplings showed a count of 60,000. At Queen Lane, also on the Schuylkill, the average was 35,000 and the peak 80,000.

Both the Delaware River Project and the consulting engineers' plan (which they call the Yardley-Wallpack Bend project) would have secondary value as flood-control works. For that reason some observers think there is a possibility of getting the Federal Government to build the Wallpack Bend dam.

Engineers Note Possibility

The engineers' report takes this possibility into account. It is noted that "it has been proposed that the Federal Government undertake development of the Delaware River for purposes of water supply and production of power."

"Such a development," it is added, "could not be other than favorable to Philadelphia from the standpoint of water supply, as it would relieve the city of the necessity of bearing the entire cost of the required storage dam."

Less expensive than the Delaware River Project, but costlier than the Yardley-Wallpack Bend plan, is the Water Bureau's plan. The commission's engineers call it the Delaware River Yardley project.

The Yardley Project

The Water Bureau proposes to take 334 million gallons a day from the Delaware River at Yardley (without tapping any additional source in the upper river). It proposes to obtain the remaining daily 166 million gallons from a series of four dams and storage reservoirs on the Perkiomen Creek and one on the Tohickon

Creek in Bucks, Berks, Lehigh and Montgomery counties.

The costliest plan covered in the study is one first advanced 10 or 12 years ago to tap six tributaries of the Upper Delaware—the Lackawanna River, Shohola Creek, Bushkill Creek, McMichaels Creek and Buckwha Creek. The State Planning Board estimated in 1938 that this project would cost \$304 million; with that general increase in costs since that time, it would be substantially more now.

It would require the construction of 113½ miles of tunnels to carry the water. It would also be necessary to relocate two railroads—one at the proposed Lackawanna Reservoir site and the other at Buckwha Reservoir. The only possibility for the production of power would be at Shohola Creek, where the engineers figured "a small plant of perhaps 1000 kilowatts capacity might be constructed." This plan is called the Upper Delaware River Basin Tributaries project. The only advantage the engineers could find in it was that the water could be brought to the city without pumping—but that is an advantage shared by both the Delaware River project and another plan which the engineers call the Lehigh-Pocono project.

Lehigh-Pocono Project

The last-named is the engineers' own expansion of a proposal advanced by private interests in 1933 to tap five creeks in the Upper Lehigh River basin. This would provide only 331 million gallons a day, not enough to supply the city's present daily need of 350 million gallons.

So the engineers expanded it by adding part of the Upper Delaware Tributaries plan—the Buckwha, McMichaels, Broadheads and Bushkill reservoirs.

The engineers finally rejected it as too expensive.

U. S. HELP POSSIBLE ON WATER PROJECT

Engineers give City Plan to take Entire Supply from the Delaware

Engineers who made a survey for the Mayor's Water Commission suggest the possibility of Federal financial support in the development of a new water supply system from the Delaware River.

Abandonment of the Schuylkill River as a water source was recommended in the plan favored yesterday by the engineers' preliminary report.

This plan, called the "Yardley-Wallpack Bend Project," would furnish 500,000,000 gallons of water daily to a city of 2,400,000, which is estimated to be adequate for this city until the year 2,000.

Because the project would have secondary value for flood control, the engineers noted the possibility of Federal assistance. The Government's object would be development of water supply and production of power.

"Such a development," said the report, "could not be other than favorable to Philadelphia from the standpoint of water supply, as it would relieve the city of the necessity of bearing the entire cost of the required storage dam."

The engineers submitted five alternate plans, and are expected to bring in rough comparative estimates for all on December 10. After on plan is chosen, definite cost estimates in terms of dollars will be submitted.

Charles A. Emerson, of Havens & Emerson, New York, was spokesman for the engineers at the conference with the Water Commission in the Mayor's reception room. Herbert W. Goodall, the commission chairman, presided.

The names of the four other projects are:

Delaware River Yardley Project; Delaware River Project; Upper Delaware River Basin Tributaries Project, and the Upper Lehigh Basin Project. All were surveyed at the request of the Commission to determine the best source of Philadelphia's future water supply.

The engineers, it is explained, are now at work on the second part of the report which covers the final study of the selected source of water supply, with estimates of cost and recommendations as to the adequacy and suitability of the present sources of supply for continued use after completion of the current waterworks improvement program and the projected sewerage and sewer treatment program.

Use of Tributaries

The engineers report the Yardley-Wallpack project would comprise construction of a storage reservoir with a dam at Wallpack Bend above the Delaware Water Gap. Intake works would be built near Yardley and a regulating reservoir at Warrington with conduits for the delivery of water to all filter points.

The water released from storage would travel in the open channel of the Delaware to Yardley, where a tunnel would conduct the water to a pumping station near Neshaminy Creek in the vicinity of Hulmeville. There, pumps would lift 166,000,000 gallons of water daily to the Warrington regulating reservoir.

The remaining 334,000,000 gallons would be raised to the level of the new coagulating basins at the Torresdale Filter Plant. From the Warrington reservoir, water would flow through a gravity tunnel to Queen Lane station for use at that filter plant and distribution to Belmont and Roxborough stations.

43-Day Capacity

The Warrington reservoir would have a capacity of 43-days' requirements at the rate of 500,000,000 gallons daily and could be used at all filter points in the event of an accident at the Yardley pumping station.

"This project," said the report, "is a combination of part of the Delaware River project and parts of the Delaware River-Yardley project, but without the use of the Perkio-men and Tohickon watersheds."

"It was conceived in order to take advantage of the desirable features of both the Delaware River-Yardley project and the Delaware River project by making use of the channel of the river as a conduit and does not in any way interfere with the low water flow of the Delaware."

Two Rivers Used Now

The engineers point out that Philadelphia since 1912 has been furnished with filtered waters from the Schuylkill and Delaware Rivers. Present consumption is 350,000,000 gallons daily, of which 55 per cent is taken from the Schuylkill and after treatment at the Queen Lane, Belmont and Roxborough filter plants, is furnished to the portion of the city lying west of Broad st.

The remaining 45 per cent is from the Delaware and after treatment at the Torresdale filter plant is furnished to the city area east of Broad st.

The engineering survey supplements a water improvement program costing \$18,000,000 and the \$42,000,000 sewerage system and sewer improvement for which loans have been authorized and a proposed sewer rental validated by the State Supreme Court.

Cart Before the Horse

BY direction of Council the preliminary report of the consulting engineers to the Philadelphia Water Commission puts the cart before the horse. It is a study of upland water sources for use *"if it should be decided at some later date to abandon existing sources of supply"*. Later is to come a report on costs of the "if" project and a study of *"the availability of existing sources of water supply for continued use in future years after completion of the current water works improvement program."*

Logic would suggest that we first ascertain whether the water delivered at our doors will be fit for use after we execute present plans for stopping its pollution, and adequate in quantity over a reasonable period. If the answer should be yes, there would be little need for decision upon an alternative. And that the alternative has been considered first is not evidence that the finding will be no.

The engineers, following instructions from the City, have gone to work on a theoretical case and given professional advice on which sound judgment cannot be passed without further data. This they expect to furnish. Meanwhile the situation is exactly this:

We do not know what expert opinion will be as to the quality of our river water after contamination here and up-stream has been stopped.

We do not know whether it would cost the taxpayers \$50,000,000, \$100,000,000 or \$150,000,000 to get upland water.

We do not know just how we would raise any of those sums.

What we do know is that upland water would not come from pure, sparkling mountain streams, but would have to be filtered the same as the water we now use.

When the horse is hitched in front of the cart we can get a better idea of the direction in which we should progress. The preliminary report is, at this juncture, merely a pleasant subject for speculation.

Better Water This City's Goal

The report on new water supply sources for Philadelphia submitted to the Water Commission by its consulting engineers is a preliminary one and must be regarded in that light.

Although the engineers favor one particular supply plan, that taking water from the Delaware River above Trenton, their recommendation is not binding on the Commission and, in fact, represents merely the start in Commission studies of possible sources.

To many Philadelphians, hoping over the years for a better quality drinking water to replace the chemical-dosed product now on tap, the report will, nevertheless, be a disappointment.

Water from a part of the Delaware River just a few miles above that where we now obtain our supply will hardly represent in the minds of many persons the pure spring water they have been wanting.

Cost of this project is estimated at upwards of \$100,000,000, which seems a large amount of money to spend in order to swap one kind of Delaware River water for another that conceivably would not be much superior.

The plan for locating the intake at Yardley is not a new one. It has been cropping up for years, usually with the backing of the Water Bureau at City Hall. The Commission's engineers have amplified it by proposing construction of an impounding dam and reservoir basin above the Water Gap. The impounded water would be released into the channel of the Delaware and then drawn out at Yardley—presumably after picking up whatever pollution is added to the stream on the way.

The plan would appear much more attractive if the water from the upper Delaware were to be channeled directly to Philadelphia by means of underground conduits, instead

of becoming part of the stream from that point all the way to Yardley. The element of cost is a consideration, of course, in such construction.

The public will get a better idea of the possibilities of obtaining upland sources when the engineers have completed their studies and are able to submit to the Commission a full report with comparative data on all material matters.

The cost of a new supply system is important, but so are other factors such as quality of the water, the quantity procurable, the litigation involved in establishing the new source, and the period of time required to complete the project.

There is no question, certainly, as to the people's desire for better water. They are reminded of their need for it with every mouthful of Philadelphia water they drink. Philadelphians are not content with this disagreeable tasting and smelling concoction, that has to be heaped with chlorine to make it a little less than lethal. They know that other cities are able to obtain palatable drinking water from uncontaminated sources, and they see no reason why Philadelphia cannot do the same.

Financially, there is no reason, as revenues from water rents would be sufficient to support the charges on a sizable loan for water improvements.

The obstacle is the city's long-continued indecision on new sources of supply. It is this obstacle that the Water Commission hopes to remove, clearing the way at last for the long-delayed project.

The public will await further developments in the survey—stressing only that it is BETTER water the city wants, not water of about the same quality it is forced to take today.

GOP Might Go Up the Hill But Would It Fetch Water?

Philadelphia water, that unholy chemical experiment, has been called more nasty names than baseball umpires in Brooklyn. And for better reasons.

As sure as there is such a thing as progress, the city must abandon its own and its neighbors' sewage and find another source of water supply. A fresh, unpolluted source.

Such a plan—to bring water here from the Poconos—has been proposed to Mayor Samuel's Water Commission by its consulting engineers.

The Upper Delaware would be dammed and the waters impounded at Wallpack Bend, above the Delaware Water Gap. Water would be released as needed, permitted to move down the river bed as far as Yardley, four miles above Trenton. There it would be piped to filtration plants here and to a large reservoir in Montgomery county.

How good is the plan? We of The Record are not engineers.

But we are not sure it would be a good thing to permit the water to flow within the river banks, becoming less pure as it moved, from the dam to Yardley. Perhaps it should be piped all the way from Wallpack Bend, 80 miles, to Philadelphia.

This is the fifth plan advanced for giving Philadelphia a pure water source since 1920.

There should be public hearings, in which the advantages and disadvantages of all plans could be made clear to the public in layman's language.

The latest plan, with an estimated cost of more than \$100,000,000, is the cheapest so far proposed.

When a plan is ultimately selected, however, it should be because it is the best, not because it is the cheapest.

There's no such thing as a bargain when you're building for the future.

It's the same idea this paper has attempted to drive home in the controversy over converting Vine st. into an express highway.

It's cheaper, far cheaper, to build such a high-speed artery at level than to make it a submerged highway, passing under the north-south sts.

But it's false, rash economy. A surface highway would merely perpetuate traffic congestion, the elimination of which is the sole reason for improving Vine st. at all.

In highways, water or buying a ukulele—you get no more than you pay for.

* * *

The people of Philadelphia understand that it is going to cost money to get pure water and other improvements.

And they will be willing to pay it in larger taxes—if, as former Supreme Court Justice Roberts said last week, they know they will get their money's worth.

Can the present city Administration be trusted to direct a program costing more than \$100,000,000 for a new water supply? The people are bound to be skeptical. The GOP record is as bad as the Schuylkill on a hot July day.

What have they to show for \$122,000,000 paid in wage taxes to the city since 1940? Not a thing in improvements or better service.

But, as we have said before, Mayor Samuel and City Council must earn the confidence of the public, if any progress, including a new water supply, is to be made.

They can do it if they will. If they show good faith by making the city government a business organization, throwing out useless parasites on the payroll, and giving the people's interest precedence over politics.

The people can't take the GOP machine on faith—they've got to be shown.

OBJECTION FILED BY LEHIGH CO. TO CITY WATER PLAN

Coal Firm Cites 'Legal Difficulties,' Offers Own Proposal

The Lehigh Coal and Navigation Company yesterday filed objections with the Mayor's Water Commission to the proposed Yardley-Wallpack Bend water supply project. They insisted the plan, approved by the Commission's engineers, presented "insurmountable legal difficulties."

Instead, the Lehigh Company presented a plan of its own, the sixth offered to date, and which would entail purchase of considerable company property in the upper region of the Lehigh Valley River.

Fear Legal Obstacle

Lehigh officials based their objections on an opinion from their counsel that the Yardley-Wallpack Bend project would necessitate building part of the dam and other structures in New Jersey. They doubted that the New Jersey Legislature would concur in such a plan.

The Yardley-Wallpack Bend project, submitted on November 29 to the Water Commission with five other plans to bring water for Philadelphia from the upper part of the State, would cost more than \$100,000,000.

It provides for tapping the upper Delaware River, 13 miles above Delaware Water Gap, building a 15-mile-long dam at Wallpack Bend, carrying water through the river channel to Yardley, then through a tunnel to a special pumping station to be built alongside Neshaminy Creek near Hulmeville. There the water would be pumped to a regulating reservoir near Warrington, in Bucks county, and thence by conduits to three filter plants—Queen Lane, Belmont and Torresdale.

Lehigh River Involved

Under the Lehigh Company's own proposal, which it calls the Lehigh-Perkiomen project, water would be brought from the upper Delaware in the Lehigh River region and also by tapping Perkiomen Creek. The company wants the city to buy property which it now owns along the upper Lehigh River, as part of the project.

Lehigh officials asked for a public hearing and the commission agreed to fix a date. They referred the company's report to their legal committee, composed of City Solicitor Frank F. Truscott, Orphans' Court Judge Grover C. Ladner, former City Solicitor Robert M. Green and Gilbert J. Kraus, vice president and counsel of The Record.

Least Costly Plan

The commission's board of engineers, headed by Charles A. Emerson, reported the Yardley-Wallpack Bend plan as the cheapest yet offered. They said the Delaware-Yardley plan would cost upwards of \$125,000,000, the Delaware River plan, upwards of \$175,000,000, and the Lehigh-Pocono plan and the Upper Delaware tributaries project, each upward of \$250,000,000.

The Mayor's Water Commission set a meeting for 2 P. M. next Thursday in City Hall to discuss all the plans further.

WEDNESDAY MORNING, DECEMBER 12, 1945

Firm's Claim Menaces Water Plan

Philadelphia's proposal to tap the Delaware River for its entire future water supply struck a possible snag yesterday with the claim of the Electric Power Co. of New Jersey that it is already Federally licensed to exploit the resources of the river's upper reaches.

H. A. Spalinski, president and owner of 98 percent of the New Jersey company's stock, made this claim as the Mayor's Water Commission met to grade the financial costs of five projects submitted to them by consulting engineers and to receive a sixth from the Lehigh Coal and Navigation Co.

Mr. Spalinski informed Samuel Rosenberg, secretary of the commission, that the Federal Power Commission on June 15, 1942, licensed his company to construct a reservoir dam at High Bridge, N. J., below Phillipsburg, and three power plants above that point.

Regarded as the most acceptable of the five plans submitted by the engineers was a project to dam the river at Wallpack Bend, 13 miles above Delaware Water Gap, then use the river bed to channel the water to an intake at Yardley.

According to Mr. Spalinski, the

Federal license authorizes him to construct power plants at Tocks Island, about five miles below the Water Gap; at Belvidere and at Easton-Phillipsburg, all located below Philadelphia's proposed dam.

Directed to submit his case to Herbert W. Goodall, chairman of the commission, in letter form, Mr. Spalinski is offering to sell the city water at, what he claims, a far cheaper price than the city would pay by building its own facilities.

He said that a financial syndicate is ready to start the project at once. Only the war had delayed the project this late, he said. Heading the syndicate, he said, is Edward A. Alexander, of 165 Broadway, New York City.

His point in bringing his plan to the city, he said, was to avoid, for Philadelphia, legal entanglements "which it will meet" if it tries to carry through its water projects, all five of which are planned for the Delaware.

BILLION GALLONS DAILY

Mr. Spalinski said his plans, all ready for construction, are predicated on supplying both Philadelphia and New Jersey communities with water at capacities substantial for population growths estimated for the year 1980.

His dam, 15 miles below Phillipsburg-Easton, he said, would have a daily capacity of one billion gallons daily. His project would cost, he estimated, \$75,000,000. Philadelphia's consulting engineers have set the cost for the city's least costly project at upwards of \$100,000,000.

Mr. Spalinski said he would sell

the water to the city, the power plants would belong to his company, and exploited a private utilities companies.

Yesterday his claim got no further than Mr. Rosenberg but probably will be presented at the next meeting of the commission.

PROJECTS GRADED

The commission yesterday graded the Wallpack Bend project as the cheapest of the five offered. Others were graded in this order: Delaware-Yardley; Delaware River; Lehigh-Poconos, and Upper Delaware Tributaries.

The plan added yesterday by the Lehigh company offers for sale to the city lands owned by the corporation along the Delaware and Lehigh Rivers and Perkiomen Creek for conversion into watersheds.

Phila. Gets 142 Million Water Plan

A \$142,000,000 program to supply Philadelphia with 510,000,000 gallons of water daily from the upper Lehigh River was recommended yesterday to members of Mayor Bernard Samuel's Water Commission at a public hearing.

The proposal, made by officials of the Lehigh Coal and Navigation Co. and supported by expert testimony, would provide for abandonment of present water sources in the Schuylkill and Delaware Rivers, as well as for termination of the city's filtration system.

BIG RESERVOIRS URGED

It provides for construction of large storage reservoirs on the Lehigh River near Mauch Chunk, connected by aqueduct with a proposed reserve reservoir north of this city.

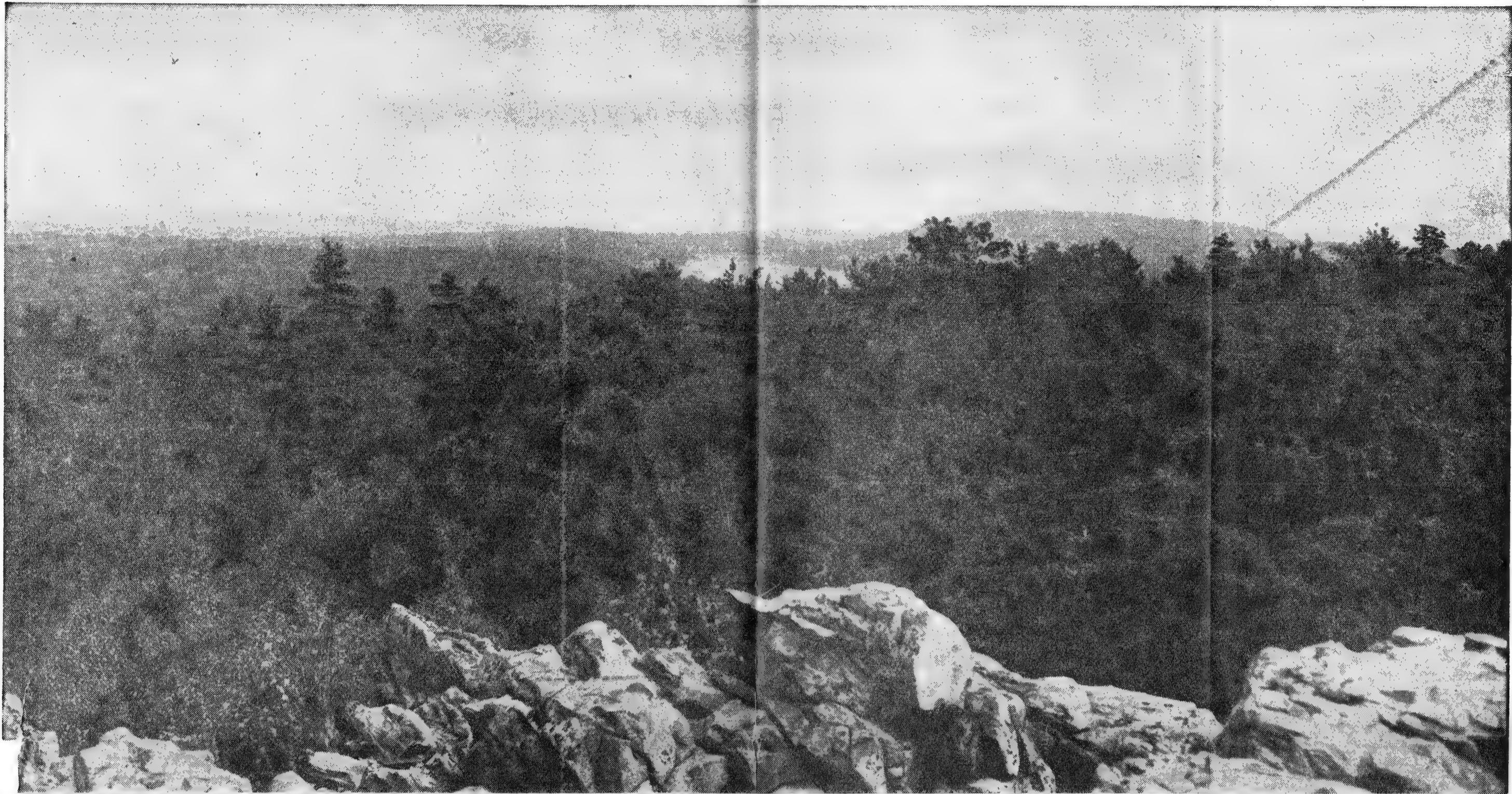
An initial expenditure of \$122,000,000 for this program would provide 365,000,000 gallons daily, 40 millions in excess of Philadelphia's present requirements, the Water Commission was told. Two additional steps were recommended to increase the total supply to 510,000,000 gallons.

CREEK DAM PROPOSED

The first was the erection of a 200 foot dam on Pohopoco Creek, below Mauch Chunk, to make 80,000,000 additional gallons available at a cost of \$14,000,000.

The last step would be construction of a reservoir on McMichaels Creek, pumping another 65,000,000 gallons into the Pohopoco Creek reservoir at a cost of \$6,000,000.

Pure Water FOR PHILADELPHIA



Where it is. How we can get it.

In the green-clad Pocono Mountains of Pennsylvania, within a hundred miles of Philadelphia, there are hundreds of square miles of woodland, dotted with lakes, laced with brooks and tumbling rivers. Here can be impounded in reservoirs enough clear, pure, mountain water to provide a greater daily supply than Philadelphia has ever used—more than this city, in any conceivable growth, can need in centuries to come. The water is there now, running away.

This is the natural source for Philadelphia's water supply. It is all within the boundaries of Pennsylvania—no treaty with another state is necessary. The water-shed is virtually all forested. It is practically uninhabited, save for a few summer camps. The necessary land can be easily acquired, to be owned and protected forever by the City of Philadelphia.

BY GRAVITY TO PHILADELPHIA

Because the reservoirs in the Poconos would be from 700 to 1500 feet above the level of Philadelphia, this water can be brought to the city through tunnels and aqueduct and distributed to water mains without pumping. No costly pumping machinery to maintain, or to get out of order. *No filtering whatever would be necessary.* The distance the water would be brought is much less than the distance from which New York obtains pure water from the Catskills.

THE COST IS WITHIN REACH

Costs of this Pocono project have been estimated carefully. The entire project can be financed by bonds which can be serviced and amortized by the city's current revenue from sale of water. The present cost of pumping and filtering water from the Delaware and Schuylkill Rivers is over \$2,000,000 a year. This entire sum would be saved by the Pocono Pure Water Gravity System. This saving would go a long way towards paying interest on the necessary bonds.

GET BEHIND YOUR CITY'S EFFORTS

The Mayor, Councilmen and other officers of Philadelphia's City Government are trying to work out the best plan to give you good water. They realize that to find a source of pure, clean water for a city of 2 million people and make it available for your use is a project of vast dimensions.

A Commission of leading citizens has been appointed to consider plans and make recommendations. We have presented the Pocono Pure Water Gravity Project to the Commission confident that they will give it serious consideration. They need your encouragement.

Time is important. Responsible engineers have said that not only is the Pocono Water-shed the best source but the Pocono project can be completed with least delay. No time-consuming negotiations with other states are necessary. Many cities are reaching for water. Bethlehem has staked out

a new reservoir in one section of the Poconos. Each year the available water sources will become less.

OTHER CITIES HAVE UNFILTERED WATER

In addition to New York, most of the other large cities of the United States have pure, *unfiltered water* many of them bringing it long distances from mountain sources. Metropolitan Boston with its great water system in the hills of central Massachusetts, Newark and other northern New Jersey cities, Los Angeles, San Francisco, Seattle, Portland, and here in Pennsylvania, Scranton, Wilkes-Barre, Harrisburg, Bethlehem and many other cities have provided clean, *unfiltered* mountain water for their citizens.

REASONS FOR OUR INTEREST

This Company owns a portion of the property which would be used for the Pocono Pure Water Gravity System. We have other plans for the development of this property, but we recognize Philadelphia's need and we are convinced this is the one great water-shed most advantageous to the city. Having our headquarters in Philadelphia and doing business here for more than a hundred and twenty-five years, we have a natural pride in the city and are anxious to have its people assured of a good water supply for all time. We should like to see the matter settled promptly and rightly before we proceed further with other uses for the property involved.

LEHIGH COAL AND NAVIGATION COMPANY

ROBERT V. WHITE, *President*

CITY TOLD IT CAN GET 'BARGAIN' IN POCONO WATER

Coal Company Says Extra Cost to Consumer Would Be Small

By LEEDS MOBERLEY

Philadelphia can have pure water from the Poconos and it will cost the consumer little or no more than the noxious Schuylkill cocktail costs him, the Mayor's Water Commission was informed yesterday.

The assertion came from representatives of the Lehigh Coal & Navigation Company, which is offering to sell the city some 30,000 acres of land bordering the Lehigh River and its tributaries for the development of a new source of supply.

Needn't Be Filtered

A detailed report by a consulting engineering firm engaged by the company declared that water from this source could be brought into the city by gravity and would not have to be filtered.

The savings on pumping and filtration (about \$2,000,000 a year), the engineers' report declared, "would nearly pay the annual bond interest on the cost of the Pocono project."

The plan, first presented to the Commission a month ago and elaborated at a hearing yesterday in the Mayor's reception

Continued on Page 9, Column 2.

'Bargain' on Water Available to City

(Continued From First Page)

By LEEDS MOBERLEY

room, calls for damming the Lehigh and two tributaries (Bear Creek and Mud Run) above Mauch Chunk. The water would be carried by aqueduct to a reserve reservoir on Jericho Creek in Bucks county and thence into the city.

365 Million Gallons Daily

This would provide a daily supply of 365 million gallons, which the engineers (Gannett, Fleming, Corddry & Carpenter, Inc., of Harrisburg) estimated would be adequate for the next 50 years. They put the cost at \$122,000,000.

The city now uses about 325 million gallons a day, but the Water Commission's own consulting engineers have taken the position that any new water supply should provide 500 million gallons.

The Lehigh's engineers accordingly listed supplemental sources on Pohopoco Creek and McMichaels Creek which could be tapped when needed for the extra supply and which would cost another \$20,000,000.

Cost Now: \$3 Million Yearly

The Water Bureau's operating expenses now are about \$3,000,000 a year. The Gannett, Fleming report figured the elimination of pumping and filtration would save nearly \$2,100,000 and cut the figure to about \$870,000.

Water rents are upward of \$7,000,000 a year, so the engineers figured there would be about \$6,380,000 for operation of the new supply and financing the bonds.

"The savings in cost of pumping and filtering would nearly pay the annual bond interest on the cost of the Pocono project," the report concluded. "By using \$122,000,000 as the probable overall cost of the project and 2 percent bonds to build, the annual cost for interest and amortization of the bonds in 30 years would be \$5,490,000 and for 40-year bonds considerably less.

"Thus the Water Bureau would earn, with no increase in rates, sufficient money to pay operating expenses of the distribution system, bond interest and retire the issue in 30 years, and still have nearly \$1,000,000 remaining each year for operation of the new supply, extensions and improvements and accrued maintenance."

Pepper Presents Case

The Lehigh presentation was made by former U. S. Sen. George Wharton Pepper, who bolstered his case with the testimony of four consulting engineers—Farley Gannett, president of the firm that prepared the report; Thomas H. Wiggin, one of the consulting engineers employed by New York city on a new \$280 million water supply project; Ford Kurtz, and Charles F. Ryder.

Their assertions that Upper Lehigh water does not require filtration runs counter to the findings of the Water Commission's own board of consulting engineers. The latter reported any water supply available to Philadelphia must be both filtered and chlorinated for complete safety.

N. Y. Doesn't Filter

Gannett and his colleagues, however, pointed out that New York does not filter its drinking water but merely chlorinates it lightly, and asserted that the Upper Lehigh area is comparable to the Upper Catskills, which New York taps.

The Lehigh plan is generally comparable to one of the five reported on by the commission's engineers in November. The latter held the Upper Lehigh and tributaries alone would not give an adequate supply and favored tapping the Upper Delaware at Wallpack Bend instead.

However, there are legal problems involved in any plan to dam the Delaware, among them the necessity of obtaining the consent of both New Jersey and the Federal Government.

The commission took no action on the new plan. Its job is to recommend a plan for a new upland source and also to report on what effect the cleanup of the Delaware and Schuylkill Rivers will have on the present sources. "I Venture to Think . . ."

In summing up yesterday, Pepper said:

"I venture to think that there is something very disappointing in the suggestion that our problem can best be solved by drawing water from one polluted source and endeavoring to remove the imperfection by a treatment which at best is the lesser evil rather than to draw upon new sources free from pollution."

"Senator," said Herbert W. Goddall, chairman of the commission, "this commission is not building waterworks. Our duty is only to submit to the voters of Philadelphia the best possible sources available."

FRIDAY MORNING, JANUARY 25, 1946

Experts Differ On Costs of Pocono Water

The Lehigh Coal & Navigation Co.'s offer to furnish Philadelphia with an upland source of water at a cost of about \$141,000,000 is based on pre-war prices, Director of Public Works Martin J. McLaughlin yesterday told City Council's Public Works Committee. He added that the proposal did not have the approval of the Mayor's Water Commission.

"Our engineers," said Mr. McLaughlin, "do not agree with the company's engineers on cost figures by millions and millions of dollars."

MEET TODAY ON COSTS

The Mayor's Water Commission will meet in executive session today to consider the costs of the plan submitted by the company. Another meeting of the commission will be held Monday at which time the company's engineers will attend.

The director's comment on the coal company's plan to sell the city 30,000 acres of land in the Poconos as a new source of water was in reply to questions from several councilmen.

An ordinance was presented at the meeting to give Director McLaughlin authority to enter into contracts for the unencumbered balance of the \$18,000,000 water improvement program loan.

\$7,000,000 REMAINS

Approximately \$7,000,000 of the original loan remains and Mr. McLaughlin told the committee that it would be spent largely for installation of pumps and filtration beds at various pumping stations. He was unable to say when the work would be completed.

In addition to approving the ordinance granting Mr. McLaughlin authority to spend the \$7,000,000 balance in the water loan item, the committee voted approval of legislation authorizing the city to enter into a contract with Day & Zimmermann, Inc., engineers, for preparation of plans in connection with the construction of a garbage incinerator in the vicinity of 31st st. and Grays Ferry road.

COST PUT AT \$750,000

Dudley T. Corning, chief of the Highways and Street Cleaning, said Day & Zimmermann was the low among four bidders and that the plant would cost approximately \$750,000. It will be the first of two proposed plants.

An ordinance also was introduced calling for the appointment of 19 new employes in the Bureau of Water at a cost of about \$29,000 for the rest of the year.

Schuylkill Canal Given To State

The 103-mile Schuylkill Canal, which runs along the river in sections from Manayunk to Port Carbon, has been given to the State by the Reading Co., State Secretary of Forests and Water James A. Kell disclosed yesterday.

His announcement followed a preliminary meeting of State and Reading Co. officials in the office of W. I. Woodcock, the railroad's vice president and general counsel.

WILL AID CLEAN-UP PROGRAM

Purpose of the gift, Mr. Kell said, was to facilitate the State-Federal program for cleaning up the Schuylkill. The Pennsylvania Legislature has allocated \$15,000,000 for the project. Army Engineers have recommended that the Federal Government appropriate an equal sum.

The century-old canal, valued at several million dollars, has not been used as a commercial waterway for a number of years. For generations, however, it was used by the Lehigh Coal and Navigation Co. for transportation of coal. Horses and mules drew barges down the canal.

FACE LEGAL OBSTACLES

Legal obstacles will complicate the railroad's turnover of the waterway to the Commonwealth. Mr. Kell pointed out. He said as soon as these were overcome State engineers would begin surveys as a prelude to construction of two desilting basins. They will be used to dredge some 30,000,000 tons of silt from the canal and river.

One of the basins would be established at Kernsville, above Hamburg, near the Berks-Schuylkill county line. The other, under tentative plans, would be set up on an unspecified site now owned by the railroad and which it intends to retain, Mr. Kell said. He added that a special agreement for the State's use of the site need to be negotiated.

The entire holdings of the navigation company, a Reading subsidiary, will be involved in the transfer, Mr. Kell explained. They include dams, leases, agreements and contracts held with industrial firms and individuals covering water rights, he said.

City Engineers Rap Upland Water Plan

The Lehigh Coal and Navigation Company's estimated cost of furnishing Philadelphia with an upland source of water will be challenged Monday at a meeting of the Mayor's Water Commission, it was learned yesterday.

A report of the commission's consulting engineers, submitted at a two-hour executive session of that body yesterday afternoon, declared that the company's figures were much too low, and announced that the commission's engineers were in agreement that the firm's plan would not supply a sufficient amount of water for the city nor could the water be used without filtration.

HIGHER COST CLAIMED

The engineers reported that instead of the \$145,000,000 figure submitted by the company the actual cost would be more than \$300,000,000.

The engineers' report, signed by Francis C. Friel, secretary of the consulting experts, declared in part:

"It is of primary importance to consider that the plan of the Lehigh Coal and Navigation Co. will cost over \$300,000,000, or greatly in excess of the estimated figure for the Wallpack Bend project.

"In conclusion we are of one mind that the Lehigh plan will not supply a sufficient amount of water for the city's needs and also that the water will be unsuitable without filtration."

FILTRATION HELD NECESSARY

At a dinner meeting of the Interstate Commission on the Delaware River Basin held last night at the Bellevue-Stratford Charles A. Emerson, chairman of the board of consulting engineers of the Mayor's Water Commission, said that "no upland site is safe or suitable for use as drinking water without filtration."

James H. Allen, secretary and treasurer of Incodel, took to task critics of Mayor Bernard Samuel on the water question. These critics, he said, forget that consideration must be given to the effect of every proposal upon flood control, sanitation, power and recreation problems in other States and communities.

It was revealed last night that the attorney-generals of New York, New Jersey and Pennsylvania met here yesterday with Incodel members to discuss additional legislation necessary in each State to insure proper use of the Delaware and its tributaries as a water source by the three States.

YARDLEY DAM COST PUT AT \$270,000,000

City Experts' Estimate on New Water Project Includes Tunnel

The so-called Yardley-Wallpack Dam project suggested by the Mayor's Water Commission to bring water to Philadelphia from the upper Delaware would cost \$270,000,000 with a pressure tunnel and \$152,000,000 without the tunnel.

This statement was made today by Joel Justin, one of the commission's consulting engineers, during a hearing in City Hall on the proposed use of the Lehigh River and the Pocono Mountain country as a new source of supply. The

(Continued on Last Page, Column Five)

Lehigh River plan is sponsored by the Lehigh Coal and Navigation Co., and is opposed by the city group.

Justin's figures were given in response to questions by Commissioner Gilbert J. Krause after former U. S. Senator George Wharton Pepper, counsel for the Lehigh Coal and Navigation Co., complained, "It should be noted that the engineers of the Water Commission have never yet supplied the public with the cost of the Yardley-Wallpack Dam project."

Urge Rejection of Plan

Rejection of the Lehigh River plan was recommended by the city's engineers, who raised seven objections, including the high cost of the project and the contention that the plan would supply a quantity of water substantially below the estimates of company engineers.

Engineers of the city, in addition to Justice, are Charles A. Emerson, chairman; Francis S. Friel, secretary; Gustav Requardt and Nathan B. Jacobs.

The city's engineers said the cost is too high and that the supply of water available for Philadelphia is far below the calculation of the Lehigh Coal & Navigation Co. experts. Instead of the 510,000,000 gallons daily which the company engineers estimated would be available for Philadelphia, the Water Commission experts estimated that there would be only 382,000,000 gallons.

Overall Supply

The overall supply of water in the region, including releases for landowners bordering the streams, would be 486,000,000 gallons daily instead of 588,300,000 gallons estimated by the Lehigh engineers, the commission's experts reported.

The city engineers declared that while the Lehigh company report makes mention of evaporation from the surface of large reservoirs, no allowance for such evaporation is

made.

"This loss is substantial and cannot be disregarded," the city engineers said.

The Water Commission's engineers noted that the company's report provides for water releases in accord with the minimum requirements of the Interstate Commission for the Delaware River Basin.

More Liberal Releases

"Our report," the city engineers continued, "provides releases which were somewhat more liberal. This procedure was adopted to insure that a reasonable supply of water would be available at all times to downstream riparian owners and to reduce damages in acquisition of water rights."

The city objected to the construction of huge reservoirs which would lower the water surface below spillway elevations and expose hundreds of acres of reservoir bottom.

"This would offer opportunity for the growth of vegetation which on subsequent refilling of the reservoir, would produce offensive tastes and odors," the city report said.

The Water Commission's experts denied that filtration can be eliminated if the Lehigh River is used, declaring, "It is the considered opinion of the Board of Engineers that a new water supply from the Lehigh or its tributaries must be filtered."

Cost Put at \$20 Million

The city's engineers estimated the total cost of the Lehigh River plan at \$320,000,000 instead of \$142,122,000 as estimated by company engineers.

If the same method of calculation used in the Lehigh proposal were used for the Yardley-Wallpack Dam plan favored by the city engineers, the latter project, it was said, would cost \$54,000,000 while an alternative plan for using the upper Delaware would cost \$107,000,000.

The Lehigh Coal & Navigation Co. estimate of the cost of conduits and aqueducts are declared to be inadequate and the 11-foot diameter of a

proposed pressure tunnel is said to be too small.

The city engineers objected to comparison of the Lehigh River with New York's supply from the Catskill Mountains or the Quabbin watershed of Boston.

Greater Swamp Area

The percentage of the watershed which is represented by swamps is much greater in the Lehigh River area than in either the Boston or New York sources of supply. Moreover, says the report, engineers of the New York Water Board now recommend filtration of the water.

Ford Kurtz, of New York City, engineering manager of the J. G. White Corp., appeared for the Lehigh Coal and Navigation Co. to say that the Yardley-Wallpack Dam project would cost more than \$300,000,000 if the city's engineers applied the same formula of cost that they used on the Lehigh River plan.

Farley Gannet, of Harrisburg, former chief engineer of the Pennsylvania Water Supply Commission; William P. Creager, of Buffalo, a consulting hydraulic engineer; Charles E. Ryder, of Harrisburg, also a former Water Supply engineer, and Thomas H. Wiggins, New York City consulting engineer, also appeared for the Lehigh Coal and Navigation Co. to challenge the finding of city engineers.

Statements Denied

They denied statements of city engineers that the Lehigh company's calculations of construction, including dams, are underestimated.

During a discussion which followed the formal presentation of their arguments against the city, they declared that the Lehigh Co. experts used the prevailing prices of 1939, and added 30%.

Justin said that his group used the 1941 prevailing price and added 30% to that figure.

Pepper asked leave to file a complete statement of each individual's discussion at today's meeting and also asked that the city's engineers and company engineers submit a report based on comparison of units, instead of dollars.

Mountain Water Fallacies

JUST as the neighbor's pasture always looks greener, so water has a curious way of seeming superior if it comes from faraway sources, especially sources of high elevation. People attribute to the water in remote mountain fastnesses a clearness and purity they would like to find in the water piped to their homes, but without sure knowledge whether the belief has basis in fact or the enchantment lent by distance.

Philadelphia's water commissions have from time to time unburdened themselves on this point. There was, for example, the report to Mayor Moore in 1920, in which the engineers said:

Water from distant mountains always appeals to the sentiment of the general public, who think of it as crystal clear, as they have seen it on their excursions afield—cool, refreshing and satisfying. This is seldom, if ever, so, and in the present case it is a highly idealized sentiment and far from the facts . . . The Upper Lehigh and its branches and the Delaware River tributaries above the Water Gap could furnish a very soft, generally clear, and hygienically safe water which would, however, at times, be turbid, have a high color or vegetable stain, and would be subject to occasional dangerous pollution. To make it as satisfactory as the water which Philadelphia is now using would require treatment to remove the color, turbidity, and disease germs. We go so far as to express the opinion that with rare exceptions no surface water should be consumed without filtration or other treatment.

In short, if Philadelphia is looking for a source of water supply which needs no improvement above its natural state, it might as well end the search. In supplying a great city with water, science can improve on nature, and nature needs to be improved upon.

Consulting Board Says City Can Get Pure Water Only From Upland Source

Final Report Is Presented After Nine-Month Survey

(Continued From First Page)

By LEEDS MOBERLEY

and light chlorination for even the purest Pocono water, there is no necessity or even need for the elaborate equipment required for our present water.

Little Pumping Required

So the sedimentation basins and double filters now in use would be abandoned, along with the five raw water pumping stations (four on the Schuylkill, one on the Delaware at Torresdale). The water from Wallpack Bend would come into the city—and flow through the mains—mostly by gravity. Only a little pumping would be required for high areas.

Even so, we still have to pour more money into the old water-works. The engineers' report points out it will take five to 10 years—perhaps longer—for financing, property acquisition and construction of a new upland source complete, tested, tuned up and ready for continuous service.

To guard against breakdowns in the present supply, the engineers recommend a stopgap expenditure of \$31,203,000 on the existing plant. That would bring the overall cost of the new supply to \$315,791,000. But, as the report observes:

“... deterioration of equipment has in numerous instances progressed to a stage such that there can be no guarantee of continuity of performance even at efficiencies much lower than at date of installation....”

“... After inspection of existing pumping and purification facilities, the board of consulting engineers is of the opinion that the waterworks improvement program as now contemplated is thoroughly justified and essential to continued operation of the Philadelphia water-works....”

Waterworks improvements can be financed with self-sustaining loans, supported by the water rents. But any extensive improvements such as those discussed in the report will require more revenue than the \$7,300,000 a year which the waterworks now yields. (This represents a million-dollar profit over the present annual operating costs and debt charges.)

Operating Cost Cut
The sharply increased debt charges for the Wallpack Bend plan would be offset partly (to the extent of about \$2,000,000 a year) by reduced operating costs. Without pumping and the present costly processing, the annual operating expenses would be only about \$1,900,000 a year, the engineers figured. Operating costs for the present system, with suggested improvements and extension, would be about \$3,870,000.

The estimated overall cost of the water system with Wallpack Bend plan, however (including debt charges), would be \$14,735,475 a year. That would require an increase of 102 percent in the present water revenues.

At the present rates of consumption that would mean, presumably, doubling the water rents. If that were done, the average household's bill would be \$16 a year instead of \$8. The increase amounts to about 65 cents a month, which is less than what a family now spends in a week on bottled water.

The \$62,568,000 program for repairing the present system—with no assurance that the water would be free from evil taste and odor—would require a 13 percent increase in revenues, or about an extra dollar on the average householder's annual water bill.

The additional \$25,000,000 to abandon the Schuylkill and take the entire supply from the Delaware at Torresdale would bring his bill up to about \$10.

Referendum Delayed

The original plan was to have the voters register their choice, in a referendum at the May 21 primary, between the Wallpack Bend project and making the best of the present sources.

Opposition developed, however, from newspapers and civic leaders, who objected that more time was needed to discuss the pros and cons of the matter and that the light turnout at a primary election would not give a fair expression of opinion anyway.

The upshot was that City Council decided to call off the referendum, hold public hearings on the question instead and then let the people vote—preferably at the November general election—on the necessary bond issue for whatever plan is chosen at the hearings.

The Wallpack Bend project was not the first choice of the board of consulting engineers. In their preliminary report, filed last November, they examined five different plans for tapping upland sources and finally proposed a sixth one of their own devising. This was a modification of the Wallpack Bend plan, which in turn is an adaptation of a proposal of the Army Engineers, made in 1934. The commission engineers called their plan the Wallpack Bend-Yardley plan.

Both plans call for the construction of a concrete dam, 170 feet high and 1850 feet long, across the river at a spot near Bushkill. This would form a lake half a mile wide and some 30 miles long, extending upstream to Port Jervis, N. Y., with a storage capacity of 121.5 billion gallons.

Concrete-Lined Tunnel

The difference between the two plans is in the method of bringing the water to Philadelphia—and the cost. The Wallpack Bend plan is to dig a pressure tunnel

deep in bedrock, lined with concrete and 15½ feet in diameter, which would go down as far as 250 feet below sea level.

It would bring the water 65½ miles to the so-called Warrington storage or “regulating” reservoir, which would be built on one of the tributaries of Nesheim Creek and take about 7550 acres of land in Bucks and Montgomery counties.

From there another pressure tunnel would carry the water 15 miles to the new rapid-sand single filtration plants proposed to be built at Queen Lane.

The tunnel from Wallpack to Warrington would cost an estimated \$155,109,000—more than half the cost of the whole project. The commission's engineers proposed to do away with the tunnel and use the bed of the Delaware River as an aqueduct.

Under their plan the impounded waters would simply be released into the river from time to time whenever the stream dropped below a certain level. That would maintain sufficient flow to give the needed 500 million gallons a day.

The water would be taken out at Yardley, four miles above Trenton, where the Delaware is still relatively clean (the heavy pollution comes in below Trenton). From there it would be sent through tunnels to the Torresdale and Queen Lane filtration plants and to the Warrington Reservoir.

The commission itself, however, never cared much for the engineers' plan. As Chairman Herbert W. Goodall observed, it looked too much like a continuation of what Philadelphia is doing now.

The commissioners directed the engineers to prepare detailed cost estimates on the costlier—but plainly more foolproof—Wallpack Bend plan with the pressure tunnel.

The report submitted yesterday gave an itemized breakdown covering every phase of land acquisition and construction (based on prices as of January 1, 1946), including engineering costs and overhead and with due allowance for contingencies.

Two Estimates Made

While they were about it, the engineers also throw in a like estimate on their own plan. Against the \$284,588,000 cost of the Wallpack Bend project, they figure theirs would cost only \$137,456,000.

That is the cheapest of any of the various upland supply plans studied. It is even cheaper than the Water Bureau's old plan, drawn up in 1930, for tapping the Delaware River at Yardley and augmenting it with water from the Perkiomen, West Swamp, Unami and Tohickon creeks.

The commission's engineers made no detailed estimate on the latter but their preliminary estimate was \$188,730,000. Their preliminary estimates on the two other plans turned out to be about 10 percent higher than the revised estimates, which would indicate a probable net figure of \$170,000,000 for the Water Bureau plan.

The costliest of all plans examined, the engineers reported, was one proposing to bring supply from the tributaries of the Upper Delaware River basin. Their preliminary estimate on this was \$380,250,000. Assuming a 10 percent over-valuation, it would still be more than \$342,000,000—a figure which more represents only the cost of bringing the water to the city limits and does not include any filter plant costs.

High Plan Omitted

There was no estimate on the Lehigh Coal & Navigation Company plan as such. This calls for damming the Upper Lehigh and two of its tributaries and bringing the water through low-cost tunnel and pipe to a storage basin at Jericho, a few miles west of Yardley.

The Lehigh Company is conducting a vigorous advertising campaign, in the newspapers and through luncheon club speakers, to sell its plans. Its own consulting engineers contend it would cost only \$122,000,000 to bring the water to the city limits.

The report of the commission's engineers, as originally drafted and distributed to the newspapers, contained no mention of the Lehigh Company's plan. The report was to have been released for publication last Monday afternoon, but an hour before the release time the commission withdrew it.

The purpose, it developed later, was to have the engineers add an appendix on the Lehigh Company's plan.

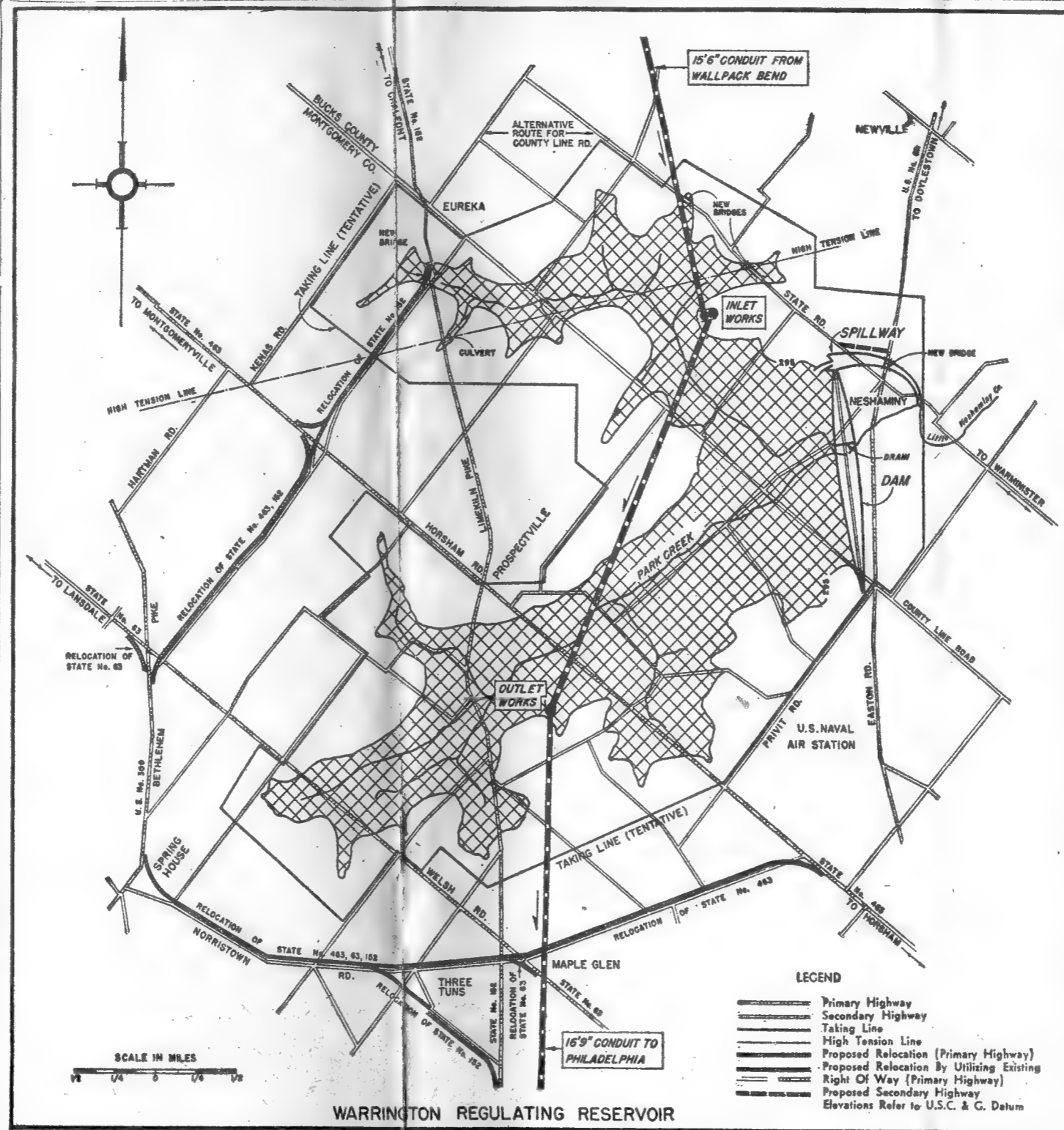
Found Too Costly

This appendix came through yesterday. It didn't add anything to what was already known; the engineers made a detailed report to the commission in January, but this report was never made public.

The appendix merely reaffirmed what was given out at that time—that the engineers found the Lehigh plan would not yield the amount of water claimed, that the water could not be used without filtration (as Lehigh spokesmen are claiming) and that the cost of construction “would greatly exceed” the Lehigh estimates.

They gave no estimate of their own on the Lehigh plan, but did give a preliminary estimate of \$240,000,000 on a comparable plan which calls for tapping the same sources but following a different route to the city.

They would bring it through a lined pressure tunnel to a reservoir basin on Unami Creek at East Swamp, and then through



Detail map of the proposed Warrington regulating reservoir, showing area to be flooded and suggested relocation of highways.

Consulting Board Has \$135,000 for Technical Studies

The board of consulting engineers to the Mayor's water commission has been working under a \$135,000 appropriation for technical studies.

Its members are Francis S. Friel, of Albright & Friel, Inc., Philadelphia; Joel D. Justin, of Joel D. Justin & Co., Philadelphia; Charles A. Emerson, of Havens & Emerson, New York; Gustav J. Regardt, of Whitman, Regardt & Associates, Baltimore; and Nathan B. Jacobs, of Morris-Knowles, Inc., Pittsburgh. Jacobs' firm is serving as consulting engineers on the current \$18 million waterworks program.

Another pressure tunnel to the Roxborough reservoir.

Assuming their preliminary estimate of \$240,000,000 is 10 percent too high the same as their preliminary estimates on Wallpack Bend and their own plan, it comes down to \$216,000,000—still \$94 million higher than the Lehigh Company's estimate.

This source, moreover, would produce only 331,000,000 gallons a day on the basis of the Commission engineers' computations. Additional supply could be obtained by tapping the tributaries of the Upper Delaware—which would bring the preliminary estimate to \$376,720,000—or, deducting 10 percent, about \$339,000,000.

The Lehigh Company says the additional supply would cost only \$20,000,000, for a total of \$142,000,000.

At a Commission hearing on the Lehigh Company's proposal in January, one Commissioner asked a Lehigh spokesman if his company would undertake to do the construction for that price. The spokesman replied that his company was not in the construction business.

A Question of Taste

It is not, as most people seem to think, the chlorine that gives Philadelphia's drinking water its evil taste and odor. It is the pollution in the two rivers, particularly industrial wastes.

It is that fact which leads the Water Commission's consulting engineers to the conclusion that it never will be possible to rid the present water supply completely of its notorious bouquet—because it will be impossible to eliminate all the pollution.

Both rivers—the Schuylkill especially—flow through highly industrialized areas above Philadelphia. Both carry a large degree of both sewage and industrial wastes. Both at present fall below every minimum health standard for a raw water supply.

The States of Pennsylvania and New Jersey have inaugurated stream cleansing programs. Pennsylvania has ordered 36 municipalities on the Schuylkill and Delaware watersheds above Philadelphia to build sewage treatment plants or improve existing plants. It also has issued pollution abatement orders thus far to about 35 industries—21 on the Schuylkill and 14 on the Delaware. New Jersey is taking similar steps.

If the two States are able to force the installation of sewage treatment works in all these municipalities, the report says, “a material reduction in degree of pollution” will result.

“The exact extent of such reduction in pollution is unpredictable,” the report continues, “but

It is certain that much pollution will remain....”

“Sewage treatment plants of types feasible for sizable municipalities and of the type contemplated by the State decrees are not 100 percent efficient. The effluents (i. e., treated discharge) of treatment plants of types in ordinary use contain from 10 to 60 percent, or more, of the pollution matters of the raw sewage.”

“This residual pollution reaches an impressive total when the river receives increments of pollution from the many treatment plants necessary for an extensive, thickly populated watershed. “In most cases sewage treatment plants are provided with either storm water overflows or by-passes which at times, will allow untreated and partially treated sewage to reach the river.”

Industries a Problem

The engineers are even less hopeful about the elimination of industrial wastes. The report says in this connection:

“Continuity in performance of plants for treatment of several different types of industrial wastes is less certain than for plants for treatment of municipal sewage....”

“... Sudden changes in volume, strength or chemical reaction of the wastes reaching the treatment plant occur from time to time during the working day, and frequently to the extent of a too great overload on the treatment process, causing temporary and serious drop in efficiency of performance....”

In addition, there is the ever present danger of “spills” or other accidents, causing the more or less temporary discharge of raw wastes into the river or into plant yards drain and thence into the river.

“That the foregoing are real and not mere theoretical considerations has been repeatedly demonstrated during past attempts by public authorities to control industrial wastes in streams draining large industrial districts....”

The current Federal-State-industry program for removing the mine silt now clogging the Schuylkill “will have but little significance from the standpoint of purification of the water,” the report points out. “It will not reduce the acidity of the river water and, consequently, the hardness of the filtered water will be unchanged....”

The report cites extensive statistics on the degree of pollution in the two rivers—based on its own samplings last summer and fall, Water Bureau analyses and tests by the Army Engineers and the Pennsylvania and New Jersey Departments of Health.

These show the B. coli index (the gauge of sewage pollution) of raw Schuylkill water over a 10-year period averaging from 21,850 per 100 ml. at the Belmont intake to 35,690 at the Shawmont pumping station. The maximum (at the Queen Lane plant) went as high as 80,000 per ml. (A milliliter is approximately a cubic centimeter.)

Delaware Not as Bad

The Delaware is not quite that bad, although the tide carries sewage (only partly treated) from the Northeast disposal plant upstream to the Torresdale water intake. The 10-year average B. coli index at Torresdale is 12,965, and the 1945 average was 9250. The average for last November, however, was 16,370, and the maximum went as high as 20,000.

The U. S. Public Health Serv-

Upstate Water Would Cost About Same as Springfield

Clean, pleasant drinking water from the Upper Delaware would cost the average Philadelphia family just about what clean, pleasant Springfield water now costs the average family in the suburbs.

The Water Commission's board of consulting engineers estimates in its final report that the Wallpack Bend project would require doubling the water system's present revenues. That means the typical householder's bill, now \$8 a year for filtered sewage, would go to \$16.

Eight dollars is now the minimum, but it allows 60,000 gallons a year. However, very few families use that much. Elbert J. Taylor, chief of the Water Bureau, estimated yesterday the average family uses no more than 30,000.

The Philadelphia Suburban Water Company, purveyors of Springfield water, has a minimum charge of \$2 a quarter for the first 2500 gallons, which figures out to a minimum of \$28 a year for 10,000 gallons. Company spokesmen conceded that very few consumers stay within the minimum.

All excess consumption over the minimum is at the rate of 40 cents per 1000 gallons. Thirty thousand gallons thus would cost \$8 for the first 10,000, plus \$8 for the 20,000 gallons excess, or \$16.

Ice, fixing standards for purity of drinking water to be used on trains and other interstate carriers, divides water supply into four groups depending on the type of treatment required. Groups 3 and 4 deal with waters carrying the maximum pollution considered permissible.

Both the Delaware and Schuylkill far exceed those maximums. Group 3 waters require complete rapid sand filtration plus chlorination. The B. coli average in any month is not to exceed 5000 per 100 ml., and not more than 20 percent of the individual samples examined in any month are to exceed the average.

Group 4 waters require auxiliary treatment (such as pre-treatment and sedimentation or settling, or double filtration) as well as complete filtration and chlorination. The average monthly coliform limit is the same as for Group 3, but Group 4 waters may show numbers exceeding 5000 per 100 ml. in more than 20 percent of the samples examined during any month. However, they are not to exceed 20,000 per 100 ml. in more than 5 percent of the samples examined in any month.

Our Standards

This is how Philadelphia water stacks up against those standards (quoting from the report):

“As concerns the Schuylkill: The monthly averages of Coliform count per 100 ml. for the past 10 years have shown from three to over nine times the monthly average limit of 5000 per 100 ml. as recommended for either Group 3 or Group 4 waters.”

“The coliform count of 20,000 per 100 ml., which is specified as the upper limit, has been exceeded from four to nine times the allowable percentage of time recommended for Group 4 waters.”

“Pre-sedimentation at the present Belmont and Queen Lane plants reduces the coliform bac-

teria by approximately one-half. The remaining coliform count after pre-sedimentation is still above that recommended for Group 3 waters. The 5000 count is exceeded two to three times the percentage of time recommended and the 20,000 count is exceeded three to 17 times the percentage of time recommended.”

As concerns the Delaware: The monthly average of coliform count per 100 ml. for the past 10 years has shown from two to four times the monthly average limit of 5000 per 100 ml., as recommended for either Group 3 or Group 4 waters.

“Monthly averages range from less than the recommended to more than seven times the 5000 per 100 ml. The 10-year average is more than two and one-half times this figure.”

“The coliform count of 20,000 per 100 ml., which is specified as the upper limit, has been exceeded from four to nine times the allowable percentage of time recommended for Group 4 waters.”

Worst of Any Big City

of Philadelphia tributary to the Schuylkill above Fairmount Dam is collected by a separate system of sewers which discharges into the river below the dam and would cause but little pollution if the sewers were of adequate capacity and were free from cross-connections of sanitary sewers to the storm water drains.

“Some pollution of necessity arises within the city limits due to discharge of storm water drains, which carry the runoff from streets and private properties during periods of storm.

“The pollution of the Delaware is due not only to discharge of sewage and sewage treatment plant effluents by municipalities situated along the river and its tributaries above Philadelphia but also, to the effluent from the city's Northeast sewage treatment plant, situated at Wheat-sheaf la., which twice each day is carried upstream by flood tide to a distance of approximately one mile above the raw-water intake of the Torresdale filtration plant.

“... A series of float tests made by the Bureau of Water in 1925, covering a period of 32 flood tides, showed that of a total of 125 floats placed in the Delaware at the outlet of the Northeast sewage treatment plant, 78 or 62 percent were carried upstream to a point above the Torresdale intake.”

New Plants Being Built

The city is just embarking on the long-deferred \$42,000,000 (which the engineers' report says will not be enough at present prices) sewage disposal plan. This calls for rebuilding of the Northeast plant and construction of new Southeast and Southwest treatment plants on the Delaware at the lower end of the city.

Even after completion of these plants, however, “there will remain... the discharge of mixed sewage and storm water run-off from streets and private properties through the overflow connections of the municipal sewer system.”

Moreover, the new Northeast plant as now planned will remove only 75 to 85 percent of the pollution. The residual 15 to 25 percent, the report points out, “will be the equivalent to discharge of from 15,000,000 gallons to 30,000,000 gallons or raw sewage each day.”

“While the proposed degree of sewage treatment will, in all probability, conform to requirements of State law and Incodell (Interstate Commission on the Delaware River Basin) regulations... It cannot be considered by any standard as complete abatement of sewage pollution of Philadelphia's raw water supply caused by discharge of its own sewage,” the report continues.

“... It is the considered opinion of the board of consulting engineers that the degree of treatment contemplated by plans now in preparation is inadequate in view of the continuous pollution of its own water supply which will be caused. It is believed that the city should revise the present plans to provide a plant which will effect reduction of not less than 90 percent in suspended solids content and bio-chemical oxygen demand.

“In addition, it is believed essential that the effluent of the plant be chlorinated for specific reduction of pathogenic bacteria.

“There is precedent for chlorination of the effluent from such a plant for the purpose of insuring the purity of the water at nearby bathing beaches and recreational areas—an object of lesser public health significance than protection of the drinking water supply.”

The Upper Delaware

In sharp contrast with the foul condition of the rivers at our door step is this pastoral picture of the Upper Delaware above Wallpack Bend:

“The upper portions of the Delaware River watershed are mountainous and contain many lakes and ponds. Above Wallpack Bend the watershed is mostly forested and only four of the scattered municipalities are of any considerable size.

“These are Port Jervis (pop. 10,000), Liberty and Monticello (pop. 4000 and 5000, respectively), N. Y., and Honesdale, Pa. (pop. 6000). Each of these communities now has, or plans are under way for, treatment facilities for industrial and sanitary wastes.”

“Density of residential population in the watershed is about 31 persons per square mile.

“The Delaware River water at Wallpack Bend is of good quality

Pure Water FOR PHILADELPHIA

THE EVENING BULLETIN, Phila., Fri., Feb. 8, 1946



Who are the engineers recommending the Pocono Gravity project which is now under consideration by the Mayor's Commission on Water Supply

Before this Company presented the Pocono Gravity project to our fellow-citizens in Philadelphia as a permanent source of water *so pure it needs no filtering*, we engaged five of the most distinguished water-supply engineers in the United States to determine its feasibility.

We asked them to answer these questions:

1. Is the water available in sufficient supply—even in times of severe drought?
2. Is the Pocono water desirable for drinking and household use *without filtering*?
3. Can this Pocono mountain water be brought to Philadelphia mains at reasonable cost?

Who are the engineers who studied and reported upon this project. They are:

THOMAS H. WIGGIN

Graduate of Massachusetts Institute of Technology. Consulting Engineer of the Board of Water Supply of the City of New York, Senior Designing Engineer of New York's famous Catskill Mountain water supply system, formerly Engineer Officer in charge of the Water Supply Section, Service of Supply, for the A.E.F. in France, and Acting Chief Engineer in China for the Grand Canal Improvement Board. Mr. Wiggin's experience covers the water supply systems of many cities, including Boston, New York, Rochester, Pittsburgh.

FORD KURTZ

Cornell Graduate. Hydraulic Engineer and Engineering Manager of the J. G. White Engineering Corporation. Specialist in investigations of water supply, storage requirements, design of earth and masonry dams and of conduits and aqueducts for conveyance of

water over great distances. His experience covers the great aqueduct which carries water from the Colorado River over the mountains to Los Angeles and water systems for Rochester, N. Y., Latrobe, Pa., Caibarién and Remedios, Cuba, Lake Ontario Ordnance Works at Niagara Falls, Nitrate Plant, Muscle Shoals, Ala., Langley Field, Va. and many others.

WILLIAM P. CREAGER

Rensselaer Polytechnic Institute Graduate. Consulting Hydraulic Engineer who has acted as Consultant to U. S. Army Engineer Corps, Tennessee Valley Authority, State and Municipal and foreign governments in the construction of more than 100 dams including the famous Kingsley Dam in Nebraska, Denison Dam in Texas, Hansen Dam in California and the great San Gabriel No. 1, which is one of the highest dams in the world. Author of 3 authoritative text-books.

CHARLES E. RYDER

Lehigh University Graduate. Chief Engineer of the Water Supply Commission of Pennsylvania for 10 years and of the Water and Power Resources Board for 20 years. As Engineer Adviser, represented Pennsylvania in the U. S. Supreme Court proceedings in the Delaware River water division case.

FARLEY GANNETT

Massachusetts Institute of Technology Graduate. President of the Engineering firm of Gannett Fleming Corrdry & Carpenter, specialists in design and construction supervision of water works for 30 years. Built water sys-

tems for Harrisburg, Lebanon, Shamokin and the Still Creek Reservoir.

Each of these gentlemen examined some phase of the question on which he is an undoubted authority. The quantity of water, its character, the practicability of dams and reservoirs and aqueduct and their estimated cost—each had the attention of a specialist.

The reports of these engineers are a matter of record. They have been presented to the Mayor's Commission on Water Supply for the City of Philadelphia.

Taken together, the surveys, investigations and opinions of these expert engineers lead to the following conclusions:

1. That the Pocono Mountain region is the best available source of pure water supply for Philadelphia. Measurements of water run-off for more than 30 years, including the severe drought of 1930-31-32, indicate that there is plenty of water to meet the city's needs for hundreds of years to come.

2. That the water is soft, free of minerals, and without filtering will meet the highest standards of pure drinking water which have been maintained for many decades by the unfiltered supplies of Boston and New York City.

3. That the estimated costs of reservoirs and aqueducts are based on studies of the terrain and geological formations and contain due allowances for increase over pre-war costs.

The entire Pocono Gravity System can be built and this pure mountain water brought to Philadelphia at a cost which can be met and amortized by the water revenues of the City of Philadelphia with little or no increase in water rates.

LEHIGH COAL AND NAVIGATION COMPANY

ROBERT V. WHITE, President

Horsham Raises \$7500 To Fight Reservoir Plan

Residents of Horsham township, Montgomery county, started building a defense fund last night for a legal fight against a key feature of the plan to provide Philadelphia with a new water system.

That is the proposal to construct a dam and reservoir at Warrington to store water brought by viaduct from the upper reaches of the Delaware River. The project would inundate about a third of Horsham and a five-mile-square area in adjoining Bucks county.

300 Attend Protest

More than 300 Horsham residents who attended a protest meeting in the Prospectville school also were told the project would mean:

Razing of 1000 farms and homes in Warrington, Horsham, Lower Gwynedd and Montgomery townships; the inundation of property valued at more than \$3,000,000; the destruction of many Colonial structures, including the home of Sir. William Keith, Pennsylvania's first Governor; relocation of three or perhaps four major highways, and loss to Horsham township of \$15,000 a year in real estate taxes.

Decide to Fight

By unanimous vote, those who attended decided to fight the proj-

ect, and pledges totaling \$7500 to engage legal counsel were signed. The women and men who attended the meeting ranged from owners of large estates in the area, to small farm operators.

They set up a committee headed by Fred Fowles, president of the township school board, to get the fight underway. First appeal may go to the State Water Resources Board, which under a legislative act of 1943 has the right to condemn suburban or rural property needed for big city water supply.

Petitions Circulated

Residents of the area got their first idea of what the project would mean by a word-of-mouth campaign, that flew from farm to farm and estate to estate. Then petitions against the project were circulated, together with photostatic copies of a map showing just how big a chunk of the area would be inundated.

Among several speakers who condemned the project was Rep. Henry J. Probert, a Montgomery county Republican member of the Legislature.

George Letterman, assessor for Warrington township, which is in Bucks county, said petitions also are being circulated there, and that a mass protest meeting is planned for the near future.

Ex-Judge Kenworthy Takes Stump For Utility Firm Seeking Unconscionable Profit

The Lehigh Coal and Navigation Co. stands to make a profit of some \$12,000,000 if they can jam their Lehigh-Pocono water project down the throats of Philadelphia taxpayers.

That sum would be realized by that firm for a few hundred acres of almost worthless mountain land on which it would be necessary to construct reservoirs and other facilities to carry the water to mains in this city.

Several weeks ago The Dispatch disclosed that a high-powered lobby was at work in Philadelphia, contacting officials in an effort to "sell" them the Lehigh Company's ideas on what is good for the local citizenry.

But now the utility firm's lust for that \$12,000,000 slice of gravy is out in the open.

None less than a former Superior Court Judge has taken the stump in favor of the Lehigh-Pocono water project.

Charles E. Kenworthy, a member of the law firm of Schnader, Kenworthy, Segal & Lewis, told an Optimist Club luncheon that the Lehigh-Pocono water was the only solution of Philadelphia's problem. He also condemned the Wallpack-Yardley project which would draw water from the upper sources of the Delaware River.

Kenworthy declared the latter proposition involved too many legal obstacles.

Said Mr. Kenworthy:

"An interstate compact would have to be negotiated among Pennsylvania, New Jersey and New York, and this would have to be approved by Congress."

He also brought the Army into the picture with the statement that "Army engineers have supervision over certain of the Delaware watersheds."

There are a few details, however, which Mr. Kenworthy took no pains to impress upon his listeners.

He failed to state that his law firm serves as counsel for the Lehigh Coal and Navigation Company, and that a juicy fee no doubt is in prospect if the deal to grab \$12,000,000 from Philadelphia taxpayers is successful.

Another detail glossed over by the ex-jurist was that there is no evidence that any difficulty would be experienced if Philadelphia sought to share in the waters of the upper Delaware. New Jersey and New York tap that source. Why not a municipality in Pennsylvania?

There would be no trouble what-

soever involved in negotiating Kenworthy's so-called compact with New Jersey and New York. And consent of the Army and Congress could no doubt be obtained for the asking.

The only drawback with the Wallpack-Yardley water source, were it to be chosen by the Philadelphia Water Commission, is that it would deprive the Lehigh Company of a \$12,000,000 profit.

Mr. Schnader, a law partner of Kenworthy, and former State Attorney General, is taking no conspicuous part in the Lehigh Company's campaign to sell its gold brick. He is engaged in representing a client who seeks to shake down the State for more than a million dollars for a worthless toll bridge.

Failing to get that price, Schnader has brought action against the State and in so doing has stymied a program to free all toll bridges.

Kenworthy, in a dutiful parrot-like fashion, echoed the cry of the Lehigh Company's own engineers that the Lehigh-Pocono project would cost only \$122,000,000, with an additional expenditure of \$20,000,000 if a larger supply was desirable.

Impartial engineers of the City Water Commission, however, put the cost of that project at between \$300,000,000 and \$330,000,000.

Speakers to civic and business organizations are also being dispatched by the Lehigh Coal and Navigation Company in its frenzied efforts to wrap up its proposed \$12,000,000 grab.

One such speaker appeared at a meeting of the United Businessmen's Association last week and was met with a barrage of questions, few of which he could satisfactorily answer.

But \$12,000,000 is a lot of money and the Lehigh Company will leave no stone unturned to pocket that unconscionable profit it seeks to make on the deal.

If and when the people of Philadelphia decide by ballot to change the city water supply, this Lehigh outfit will bear watching. With tactics as ruthless and brazen as they have to date employed, anything might happen.

Voters to say if city to spend millions for new water supply

By HERBERT D. REIS

Philadelphia voters will decide at the polls whether they wish a new upland water supply, to cost many millions more than the present source, or whether they desire to retain the present source, increased and improved.

Mayor Bernard Samuel's water commission, at a two-hour session yesterday afternoon, in the mayor's reception room, took an initial step toward accomplishing a referendum. The commission drafted a resolution which will be considered Thursday by city council. This measure, if adopted, and presumably it will meet little or no opposition, would call upon the county board of elections to distribute the required ballots upon which the citizens may indicate their choice. The referendum would take place at the primaries on May 21.

DIFFERENCE IN COST

For the first time, public announcement was made of the difference in expenditures, in the alternatives, upon which the electorate will pass. If the present water system remains, but is augmented and bettered so that there will be "safe and palatable water," there will be a necessary increase in water revenue of 13 percent.

If a new source is agreed upon, likewise to provide "safe and palatable water," there must be an increase in water revenue of approximately 100 percent. The present system with proposed changes would cost \$63,000,000. The new supply, from outside the city, would cost \$285,000,000, according to the estimate of the water commission. These facts would be clearly indicated to the electorate at the primary election May 21 when the voters would make the decision.

Included in the list of those present at yesterday's commission meeting was Frank W. Truscott, city solicitor. It was reported Truscott wrote the resolution which will be before the council this week.

SIX POSSIBILITIES

If the water is to be brought from outside the city, there are six possibilities concerning the location from which it would be drawn. However, the most likely source, unless the present field is to be retained, is the Wallpack Bend project, also known as the Delaware river project. Under this plan, all required water would come from a reservoir on the Delaware, to be formed by a dam constructed at Wallpack Bend, approximately 13 miles above the Delaware Water Gap. The water would be carried through a tunnel 80 miles to the present Queen Lane reservoir.

The voters will not have placed before them on May 21 an exact description of the proposed location of the outside-the-city source. However, before election day there will be public announcement of that location. The commission announced that its board of engineers is now studying the six upland sources and that the engineers will make their recommendation to the commission within the near future. That will be upon a date sufficiently early for the commission to tell the electorate what upland supply is agreed upon, as an alternative to

the retention of the present source.

Among other five possibilities are the so-called Delaware river-Yardley project. Were this plan to be consummated, two-thirds of the required supply would be taken from the Delaware near Yardley (six miles above Trenton) and the other third would be derived from four reservoirs on the watershed of Perkiomen creek and one reservoir on Tohickon creek. Water from an intake near Yardley would move 17 miles through a tunnel to the present Torresdale reservoir. From the Perkiomen and Tohickon reservoirs water would travel 21 miles by tunnel to the Queen Lane reservoir.

Another proposition is a com-

bination of the Delaware river-Yardley project and the Wallpack Bend project. There is a possibility, too, that the commission's engineers might recommend a plan to take water from six streams in the Pocono mountains. This is known as the "upper Delaware river basin tributaries project."

Fifth plan is the upper Lehigh basin project.

Sixth and most recently proposed is the "Lehigh-Pocono proj-

ect." The Lehigh Coal and Navigation Co. offered to sell land to the city with water rights. This plan would take water from the upper Lehigh basin streams, in addition to the McMichael's creek.

If the commission's program is carried out two propositions will be before the voters with instructions to "vote for one." The proposal to keep the present source or to obtain a new source would involve the same amount of water.

The referendum would read for both propositions — "500,000,000 gallons daily of safe and palatable water."

There has been no estimate of the precise increase which would appear upon the water bills, were any of the propositions to become effective. The commission acted with dispatch yesterday so that the board of elections may act within the calendar dead line prescribed by law for preparation of the referendum.

Public May Vote On Water Plans

Board Paves Way for Poll On 2 Proposals at Primary

Mayor Bernard Samuel's Water Commission yesterday approved a resolution which will pave the way for the public vote on a new source of water supply for Philadelphia at the primary election on May 21.

The resolution, another technical step leading to the voting, will be submitted to City Council for action this week by the Mayor.

Voters will be asked to choose one of two new sources of water supply. The first, labelled "A" in the resolution, reads:

"Do you favor the improvement and extension of the present water supply system and sources to furnish 500,000,000 gallons daily of safe and palatable water at an estimated cost of approximately \$63,000,000, which will require an ultimate increase of approximately 13 percent in the amount of water revenue?"

NEW UPLAND SOURCE

"Or," the resolution continues:

"Do you favor the establishment of a new upland water supply source to furnish 500,000,000 gallons daily of safe and palatable water at an estimated cost of approximately \$285,000,000 additionally, which will require an ultimate increase of approximately 100 percent in the amount of water revenue?"

5 OR 6 CONSIDERED

Although no specific source is named, five or six have been under consideration. General approval seems to have been given to the Yardley Wallpack Bend project.

Only one for which specific figures have been asked, it would bring water in conduit from the Poconos to a reservoir in the vicinity of Warrington, Bucks county.

DEADLINE THIS MONTH

City Council must approve the resolution before the deadline in late April, necessitated by the military service law governing preparation of ballots.

The County Board of Elections must have the ballots prepared in time for them to be sent to service men several weeks ahead of the actual voting in the city.

WALLPACK BEND WATER COST PUT AT \$348 MILLION

Planners Say Upland Supply Would Double Present Rates

The proposed Wallpack Bend "pure water" project will cost an estimated \$348 millions, the Mayor's water commission asserted yesterday.

This is the upland water supply plan which is to be submitted to the voters in a referendum at the May 21 primary.

The commission said if it is adopted it will "require an ultimate increase of 100 percent in the amount of water revenue." That presumably means that the average householder's bill, now \$8 a year, will go up eventually to \$16.

Alternative Offered

The voters will be offered the alternative choice of a large scale improvement and extension of the present water supply system and sources at a cost estimated at \$63,000,000. This alternative is based on the assumption that, when the city's sewage disposal program and the State-Federal-industry clean-up of the Schuylkill are completed, the present supply can be made "safe and palatable."

Actually, the commission proposes that the \$63,000,000 job be carried out even if the voters decide they want to tap an upland supply.

Although there was no announcement on this point, it is understood that the proposal calls for almost a complete rebuilding of the present system—

WALLPACK BEND COST PUT AT \$348 MILLION

(Continued From First Page)

on top of the \$18,000,000 rehabilitation program now under way.

Details Not Available

Details, however, will not be available until the final report of the commission's board of consulting engineers is released about April 15.

In fact, the meager facts including cost figures which were released yesterday were not supposed to have been made public until the engineers' report is ready.

They became known at this time because the commission was confronted with the necessity of immediate action to get the question on the ballots. That meant deciding the form of the question to be submitted, and then drafting a resolution for introduction in City Council on Thursday formally ordering the referendum.

Ballot Questions Quoted

This was done at a meeting in the Mayor's reception room yesterday afternoon. And, since the cat would be out of the bag anyway on Thursday, the commission released the text of the proposed resolution afterward. The questions to appear on the ballots are:

"A. Do you favor the improvement and extension of the present water supply system and sources to furnish 500,000,000 gallons daily of safe and palatable water, at an estimated cost of \$63,000,000, which will require an ultimate increase of approximately 13 percent in the amount of water revenue?"

OR

"B. Do you favor the establishment of a new upland water supply source to furnish 500,000,000 gallons daily of safe and palatable water, at an estimated cost of approximately \$285,000,000 additional, which will require an ultimate increase of approximately 100 percent in the amount of water revenue?"

Great Cost Is Surprise

The cost of the Wallpack Bend project occasioned some surprise, since it has been represented as one of the less expensive plans for an upland source.

It calls for the construction of an impounding dam across the Upper Delaware and the construction of an 85-mile pressure tunnel in deep bedrock to bring the water to an 18½ billion gallon "regulating basin" near War-

ington, in Bucks county.

Actually, the tunnel represents a major item in the total cost, and the commission's engineers advocated bringing the water down here in the bed of the river itself. But the commission members shied away from that; it seemed too much like what the city is already doing.

The Lehigh Coal & Navigation Company advanced a plan for tapping the Upper Lehigh and tributaries which its engineers insisted would supply 500,000,000 gallons or more a day at a total cost of only \$142,000,000.

Estimates Challenged

This plan, however, was similar to one which the commissions engineers already had studied and pronounced too costly. The commission's engineers disapproved the type of construction advocated by the Lehigh Company and challenged the cost estimates. They said if the same type of construction were used as is contemplated in the Wallpack Bend plan, the Lehigh plant would cost not \$142,000,000 but \$350,000,000.

With the \$63,000,000 for reconstruction of the treatment and distribution system, that would bring the total cost of the Lehigh plan to \$413,000,000. That is \$65,000,000 more than the \$348,000,000 total cost of the Wallpack Bend plan, including the \$63,000,000.

Water Supply Quackery

PHILADELPHIA's Council is reported to be preparing to submit to the voters at the May primary two questions, the answers to which, it is assumed, will indicate the wishes of a majority of the people as to methods of improving the City's water supply.

Such an assumption is unfounded.

In the first place, a majority of the people are not likely to participate in the primary. The 1942 Gubernatorial primary brought out less than 350,000 votes.

In the second place, no questions which can be framed in space short enough for an understandable ballot can possibly convey the information necessary to the reaching of an intelligent decision. The water problem is extremely complicated, and its proper solution requires careful study of many alternatives. Getting snap judgment from a minority of uninformed voters is no way to meet it.

In the third place, the legal authority for holding such a referendum is dubious, if any shadow of it exists.

And lastly, Council and the Mayor were elected for the purpose of determining city policies, and are empowered to procure for their guidance all the technical advice they may need. This, indeed, they have done. There is no warrant for any attempt to sidestep this responsibility by seeking curbstone opinions.

It may well be argued that the voters, who will as taxpayers meet the cost of any form of water supply improvement ultimately decided upon, have a right to say how much they are ready to pay for better water. This they will have opportunity to do legally when loans for water supply purposes shall be put before them.

An undertaking by Council to inject a meaningless, inconclusive and probably illegal water referendum to a minority of the voters into the May primary would be an objectionable step toward waste of the taxpayers' money.

What the people need to form a considered opinion about water supply is full information and public discussion of all the available alternatives. This need cannot be met by administering capsules in the form of referendum questions. That method is sheer quackery.

CITY DEFERS WATER PLAN REFERENDUM

PHILADELPHIA RECORD, THURSDAY, APRIL 11, 1946

Newspapers Win Fight Against Vote in May

City Council decided yesterday to postpone the referendum on a new water supply.

The choice of tapping an upland source, at an estimated cost of \$348 million, or spending \$63 million to improve the present system, was to have been submitted to the voters at the May 21 primary.

Opposed by Newspapers

The plan, however, ran into opposition yesterday from newspapers and civic leaders, who contended the voters need more time to study such an important question.

So the Councilmen, at a two and a half hour caucus yesterday afternoon in the office of President Frederic D. Garman, agreed to defer the vote to some unspecified future date.

Garman told reporters afterward the members felt more time was needed not only to study the water supply proposal itself, but also to decide on the manner in which it should be submitted.

Object to Questions

The Water Commission at a meeting on Monday drew up the questions which it thought should be placed on the ballot, and incorporated them in a resolution to be introduced in Council at today's weekly meeting. But the Councilmen decided at yesterday's caucus they didn't like the questions as framed and would work out their own.

There is no indication, however, of when the referendum will now be held. The thought in most independent quarters appeared to be that it should be held at the November general election, when there will be the greatest chance for a truly representative expression of sentiment.

Suggested by The Record

That was the suggestion made in the lead editorial in The Record yesterday morning, which seems to have set the tone of the Councilmen's discussions. The editorial said in part:

"The referendum should be held—but not at the primary.

"The question of pure water affects ALL Philadelphians. But only a comparative handful of voters can be expected to turn out for the primary election. That's the historic pattern here. There are not enough contests to interest the voters. . . .

Public Hearings Urged

"If the City Administration wants a valid index of Philadelphia public opinion on the water alternatives, let it postpone the referendum until the general election in November—when the voters will turn out.

"And before that date, public hearings should be held. There are a good many questions which need to be answered.

"The wording of the questions which are to go on the primary ballot seem to be prejudiced against the more costly choice which includes Wallpack Bend.

"We do not pretend to know the merits of the two plans. Details will not be known until the final report of the Water Commission's engineers is made.

"Meanwhile, there should be no prejudice against the more expensive plan—merely because it is costlier."

Bradley Backs Delay

Echoing The Record's sentiments were T. Henry Walnut, chairman of the Philadelphia Committee on Public Affairs and former member of the Civil Service Commission, and Rep. Michael J. Bradley, chairman of the Democratic City Committee.

Bradley, declaring himself "in

complete agreement" with The Record, pointed out in a letter to Garman that to delay the referendum until November "will give the voters sufficient time to study the merits of the alternative proposals, to debate them pro and con and to reach an intelligent decision."

"As chairman of the Democratic County Executive Committee," Bradley wrote, "it is my desire to make a recommendation to the voters regarding their choice of the alternative proposals contemplated in the water referendum. However, if the referendum is to be decided at the May 21 primary there would be insufficient time for study."

Walnut Lists Objections

Walnut, who also wrote to Garman, made three points:

"1. The primary election has historically polled a minimum of votes, hence at this time there would not be a representative opinion expressed.

"2. Since the experts themselves have not been able to agree on the general question of the proper plan during the past nine months, it is ridiculous to expect an intelligent citizen reaction in such a public opinion poll.

"3. The electorate should have all sides of important questions presented, with ample time for discussion and debate, before expressing its desires in this matter, since the question appearing on the ballot cannot contain sufficient information."

Continued on Page 10, Column 4.

Council to Hold Public Hearings on City's Water Supply

City Council today unanimously approved a resolution introduced by Frederic D. Garman, president, authorizing the Public Works Committee to hold public hearings on plans for improving and extending the city's water supply.

Councilman Phineas T. Green, committee chairman, said the first hearing will be held soon after the second part of the water commission's report is received, probably next Monday.

The Garman resolution provides that the Public Works Committee shall report to Council "with recommendations of the project to be selected or, if they deem it proper or necessary, that the question be submitted to the electors at a public election to be held on November 5, 1946, so that a definite program may be promptly adopted."

Vote Date Changed

Originally, the Water Commission's proposals were to have been

voted on at the May 21 primary. This date is changed under the Garman resolution.

After the resolution was adopted, Green advised his colleagues that members of Council, the commission and the Mayor will do their utmost to find the best supply of water available for Philadelphia at the lowest cost and urged that all interested individuals and organizations attend the committee hearings.

"We will welcome the views of all groups," Green added.

Resolution Explained

During the Councilmanic session, Samuel H. Rosenberg, secretary of the Water Commission and Mayor Samuel's secretary, read a formal statement designed to clear up "a misunderstanding of the circumstances surrounding the Water

(Continued on Page Two, Column Two)

ORALINE Tooth Paste by S. S. White. No secrets—just finest quality. 10.25.40c.—Advt.

City Water Hearings

(Continued from the First Page)

Commission's recent action."

He explained that the reason the commission proposed that Council adopt a resolution authorizing a vote on the questions of water supply at the Spring primary was because the instructions given the commission required a vote by that time.

The commission was informed by the County Board of Elections that to place the questions on the primary ballot would require passage of a Councilmanic resolution this week.

"To accomplish this the commission was compelled to submit the resolution, which it did, even though it could not be accompanied by the final report," Rosenberg said.

Rosenberg added that it was "reasonable to suppose that the voters would be sufficiently interested to respond to the opportunity to express a preference on the question uppermost in the minds of most of our citizens, namely, whether a large sum of money should be spent for an entirely new upland source of water supply, or whether a much smaller amount should be spent on the improvement of the existing system with retention of the present source."

Substitute Resolution

The commission's resolution, for which Garman's was substituted, proposed that voters should decide which of two proposals they favored.

Proposal A would provide for improvement and extension of present water sources at an estimated cost of \$63,000,000, and Proposal B had to do with an undefined new upland water source to furnish 500,000,000 gallons daily at an estimated cost of approximately \$285,000,000 additional.

After the Commission's meeting Monday it was explained that Plan A could be completed without Plan B, but that adoption by the voters of Plan B also would involve Plan A at a total estimated cost of \$348,000,000.

Improvement and extension of present sources would involve ultimately an increase of 13 per cent in water rents, while approval of a new upland water source would require an ultimate increase of approximately 100 per cent, plus the 13 per cent.

THURSDAY MORNING, APRIL 11, 1946

City Delays Referendum On New Water Supply

Philadelphia voters will not be asked to choose a new water supply for the city at the May 21 primary. City Council, in a two-hour caucus yesterday, decided to withdraw the water supply referendum from the primary ballot until full information on the various sources can be provided.

Council President Frederic D. Garman, who announced the decision, said that a substitute resolution would be introduced at today's Council session. Although he declined to comment, it was expected that the resolution would postpone the referendum to the general election in November.

PLAN DREW PROTESTS

Several groups, including the Philadelphia Committee on Public Affairs, had protested against submitting the referendum to the electorate at a primary.

Mr. Garman said members of Council felt it was inadvisable to submit the referendum at this time since the Board of Engineers of the City Water Commission had not yet completed its report on the cost of the Wallpack Bend project for developing new water sources

Continued on Page 8, Column 8

Vote Postponed On Water Supply

Continued From First Page

in the Upper Delaware River. The report is expected about April 15.

PLAN COSTS \$348,000,000

The referendum, as recommended by the Water Commission, would have given the voter his choice of two possible water sources. One would be creation of a new water source at an estimated cost of \$348,000,000. The other would involve improvement of present sources in the Delaware and Schuylkill at a cost of \$63,000,000.

The Water Commission's draft of the referendum said the latter proposal would involve an increase in consumers' water bills of approximately 13 percent. The development of new water sources would increase individual bills nearly 100 percent, it said.

SIX PROPOSALS STUDIED

Since its appointment by Mayor Samuel, the Water Commission has studied six different proposals for development of new water sources. The Wallpack Bend project was favored and is the only project on which a report of the Board of Engineers has been asked.

Mr. Garman declined to comment on whether postponement of the referendum until November would bring a similar delay in development of either water source. One Councilman pointed out that the city was not prepared to go ahead immediately with either plan and indicated that the delay in voting would have little effect on the improvements.

PURE WATER SOUGHT

Both water plans were intended to develop 500,000,000 gallons daily of "pure and palatable water."

T. Henry Walnut, chairman of the Philadelphia Committee on Public Affairs, presented one of several protests to Council on the proposed May primary vote.

He said his committee favored delay because of the usually small number of votes cast at the primary, the fact that experts themselves were at odds on the projects, and because there had not been an opportunity for full discussion and debate.

Don't Toss Away Our Chance for Better Water

[EDITORIAL]

Council members, at their caucus yesterday, did the right thing in withholding from the May primary ballot the water supply proposal submitted by the Water Commission.

But it is not enough to postpone action on the one-sided proposition sponsored by the Commission. That should be rejected entirely as virtually guaranteeing to deprive Philadelphia of better drinking water for years to come.

What is needed is a definite declaration, backed up by energetic and practical measures, of this city's intention to obtain pure drinking water in place of the vile-smelling, ill-tasting stuff piped from the Delaware docks that our people have been forced to swallow for years.

From time to time in the past plans aiming at establishment of new supply sources outside the city have been initiated, only to be talked to death or otherwise killed off.

We are in danger today of having the same thing happen again. We are at the cross-roads on Philadelphia water supply—make no mistake about that.

Either we retain our present unsatisfactory system or we drive ahead for a new one that will give us the better water a modern, progressive city should have.

What is the City Water Commission's answer to the problem? A plan leaving it to the voters to choose between a supply of "safe and palatable" water from the present sources at cost of \$63,000,000, and a supply of "safe and palatable" water obtained from an upland source at cost of \$285,000,000.

What kind of alternative is that? If we can get the same quality water for \$63,000,000, why in the name of common sense would anyone favor spending \$285,000,000?

Allow that kind of a choice to go on the ballot and we can kiss good-bye to outside water for Philadelphia.

It is not possible that water of the same quality, both "safe and palatable" to the same degree, can be obtained from the Delaware and Schuylkill intakes and from uncontaminated streams.

The Commission had apparently assumed that when the two rivers are completely cleaned up and made free of sewage and other discharges, the water piped from them will be safe and palatable. But it does not state, because it cannot, just when that will be.

This city is itself only beginning a \$42,000,000 job to divert its sewage from the Delaware. No one can tell when the thousands of communities and industries along the Schuylkill and Delaware, many of them not even in Pennsylvania, will stop fouling our water supply.

The Commission's report would make an upland water source appear prohibitively costly. It mentions a \$285,000,000 estimate—without breaking down the figures or stating the source to which it applies. It says such an undertaking would require a 100 percent increase in city water receipts, but it does not mention the fact that if consumers were to pay twice what they pay now for water in Philadelphia the amount would usually be only \$16 a year—not an exorbitant price, surely, for decent water.

Additional light on the financial and other features of possible upland sources is badly needed before the people can intelligently pass judgment on them.

This is not to be construed as an indorsement of the Pocono supply plan supported by the Lehigh Coal and Navigation Company, the Wallpack Bend plan, or any other that has been mentioned.

But The Inquirer believes that to rush headlong into permanent captivity to the kind of water we are now compelled to drink—even if it may be scrubbed up a bit in the dim future—would be a terrific mistake.

Don't just keep the Commission's half-baked proposal off the primary ballot. Call for expert re-examination of all possible upland supplies. Don't give up until Philadelphia has water that doesn't have to be dosed with chlorine to make it harmless—but water that is pure, sparkling, fit to drink.

FOES OF RESERVOIR RETAIN COUNSEL

Bucks County Commission Backs Residents of Neshaminy Village

Bucks County commissioners have retained a Philadelphia law firm to fight the proposed construction of a reservoir in Warrington Township as part of a new water system for this city.

County Commissioner Edward C. Hancock made the announcement last night at a meeting of 250 residents of the township, most of whose homes in Neshaminy village would be inundated in a proposed 7,000-acre reservoir on both sides of the Montgomery-Bucks County line.

Hancock and George Q. Tettemer, chairman of a citizens committee which is opposing the reservoir, said the name of the law firm would not be made public now.

A petition, being circulated by the committee, is to be strengthened in language as a result of a vote taken at the meeting, which overflowed the Neshaminy fire hall. It is to be sent to Mayor Samuel and City Council.

"The county commissioners are backing us 100 per cent, both morally and financially," said Tettemer.

Members of the committee are Tettemer, a Republican committee-man and township real estate as-

essor; C. Leroy Murray, tax collector; Stephen Kunstl, whose home lies on the site of the proposed dam; Alva Clarence, president of the fire company, and William J. Kelly, township auditor.

The reservoir would wipe out an assessed valuation of \$593,235 of a total valuation of \$1,510,000, Tettemer said, and cut \$16,000 from the annual revenue in county, school and highway taxes.

Council to Hold Hearings On Water Supply Plans

By EDWARD STONE

City Council voted yesterday to try its own hand at solving Philadelphia's water needs before consulting the voters.

By unanimous resolution, Council agreed upon a series of public hearings on the question whether the city ought to expand its present water sources or seek a new upland source.

May Avoid Referendum

After those hearings, Council will attempt first to decide for itself whether present sources should be retained, or, if not, what upland source is needed. Only if deemed necessary will the issue be presented to the public by referendum.

If Council adopts its own plan,

voters would pass only on the borrowing of funds, presumably at the November 5 general election.

If a referendum is considered proper, it will take place by the terms of the resolution at that election. The necessary loan then probably would be submitted at next year's primary.

Supplants Mayor's Plan

The procedure outlined by Council supplants Mayor Samuel's prior proposal to submit the issue of present or new source to the electorate at the May 21 primary.

In accordance with the Mayor's plan, the Philadelphia Water Commission drew up Tuesday two questions for the May 21 vote. Voters were to be asked to choose between spending \$63,000,000 for expansion of the present system, or spending an additional \$285,000,000 to bring water from the Pennsylvania uplands.

That plan was killed by Council at a private caucus Wednesday, after The Record and civic leaders contended May 21 was too soon for an intelligent decision by voters.

Report Expected April 15

In a statement read at Council's City Hall meeting, the commission pointed out that it drew up its questions to comply with the Mayor's program. The commission planned an educational campaign to inform the voters before May 21, the statement said.

Council's hearings will be started by its Public Works Committee soon after the commission makes its final report. The report is expected April 15.

It will give particulars and detailed costs of the upland sources considered best, and also of the improvement of the local supply. The \$63,000,000 is a preliminary figure for expanding the present supply from 350,000,000 gallons a day to 500,000,000. The \$348,000,000 would cover that and add a dam and tunnel system to bring water here from the upper Delaware River, probably from Wallpack Bend near Bushkill.

Land Voted for School

In another move, Council agreed to give the Board of Education the city-owned Oxford-Lower Dublin Poor Farm site in the Northeast for a new senior-junior high school.

Councilman L. Wallace Egan, chairman of Council's finance committee, opposed the gift as "a bad precedent." His opposition aroused the wrath of Councilmen Clarence K. Crossan, Louis Schwartz and others. Council's vote was 18 to 2, with Councilman Henry J. Trainer backing Egan.

FRIDAY MORNING, APRIL 12, 1946

Council Sets Hearings on Water Supply

Officials Decide On Own Inquiry; Reject Vote Plan

City Council yesterday decided to make its own investigation of a future water supply for Philadelphia.

By unanimous action, Council approved a resolution authorizing the Committee on Public Works to hold a series of public hearings on the proposal following receipt of the Water Commission's final report on April 15.

Although the Water Commission, appointed by the Mayor in April 1945, to investigate possible sources of water for Philadelphia, had approved a resolution recommending that the matter be submitted to voters at the May 21 primary election, Council's action yesterday not only discarded that suggestion, but indicated that the matter may never be put before the voters.

PROVISIONS OF RESOLUTION

The resolution directed that "immediately after conclusion of the hearings the committee report to City Council with recommendations of the project to be selected by the City, or if they deem it proper or necessary, that the question be submitted to the electors" at next November's general election.

2 PLANS PROPOSED

This was interpreted by several councilmen to mean that Council may, finally determine the future source of Philadelphia's water.

The Water Commission had proposed that the voters be asked at the May primaries to choose between an improved local source or an upland supply of water.

The first proposal would have cost about \$63,000,000 and would have raised the individual consumer's bill about 13 percent. The upland source would have cost an additional \$285,000,000 and increased the consumer's bill 100 percent.

COMMISSION GIVES VIEWS

Councilman Phineas T. Green, chairman of the Public Works Committee, who urged approval of the resolution, said he would invite representatives of civic, business and other interested groups to the hearings.

The position of the Water Commission was outlined in a lengthy

Continued on Page 3, Column 4

Water Hearings Set by Council

Continued From First Page

statement read to members of City Council.

Signed by Samuel H. Rosenberg, secretary of the commission, it explained that the commission had recommended that the matter be put to the voters at the May 21 primary because it was so "publicly stated a year ago and had been repeated many times since. . . ."

The commission, the statement explained, never intended that the questions appearing on the ballot were to be the sole guide for the voters, but that a wide-spread educational campaign between now and the election had been planned to acquaint the electors with all phases of the water problem.

"It was reasonable to suppose the voters would be sufficiently interested to respond to the only opportunity they have ever been given to express a preference on the question uppermost in the minds of our citizens," continued the statement.

COUNCIL EXPLANATION

The plan to ignore the Water Commission's resolution and substitute one of its own was made at a caucus of City Council late Wednesday.

Frederic D. Garman, president of Council, pointed out at the conclusion of the conference that it was felt that too little time remained before the spring primary to acquaint the people with the facts in the water situation and that the matter should not be submitted to the voters until the commission's final report was received.

WATER BILL BOOST OF 102% FORECAST FOR TUNNEL PLAN

Delaware River Project would Cost 315 Million, Engineers Report

COUNCIL TO GET DETAILS

An upland water supply for Philadelphia, if obtained through the Delaware River project favored by the Water Commission, probably would cost \$315,791,000 and require doubling the average consumer water bill, the Commission's board of engineers indicated today.

The annual water bill for a house with sink, bath and water closet is now \$9, on the unmetered service. If water rents were increased by 102%, in exact proportion to the increased annual cost of the proposed new system, the bill would become \$18.18. The lowest metered rate of \$8 would become \$16.16 per year.

The engineers, in their final report, not only brought in cost estimates on the Delaware River Project, but also on the Yardley-Wallpack Bend Project, which the engineers originally recommended from among seven under study.

The Delaware River project includes a 15½-foot pressure tunnel, driven 80 miles through rock. The Yardley-Wallpack Bend project does not, but is otherwise substantially the same. It would employ the bed of the Delaware River as far as Yardley, near Trenton. Both would have an impounding dam at Wallpack Bend, above the Delaware Water Gap.

Comparison of Costs

The tunnel alone would cost \$155,109,000, the engineers estimated, but the difference in cost of the projects is, as far as they could be compared, \$130,776,900. The engineers included the Yardley-Wallpack Bend estimates in an appendix.

An eighth project sponsored by the Lehigh Coal and Navigation Company, to obtain a water supply from the upper Lehigh River in the Pocono Mountains, was made the subject of a brief appendix added after the binding of the report.

After conferring with the company's consulting engineers and making its own study, the Board of Engineers confirmed its conclusion of last January, the appendix stated. This conclusion was:

"That this Lehigh Plan will not yield a sufficient quantity of water for the future needs of Philadelphia; that the water is unsuitable for use without filtration and that the cost of construction would greatly exceed the \$142,122,000 stated in the (Lehigh Coal and Navigation Co.) report."

Basis for Hearings

The report, a large volume including tables and maps, will serve as the basis for public hearings before City Council's Committee on Public Works, at a date yet to be set.

The consultants also made cost estimates for a program of internal improvements and expansion in the water system, which already is in progress under an \$18,000,000 bond issue. It is contemplated that these improvements will be carried out irrespective of the city's choice of water supply, and they are therefore included in both the Delaware River and Yardley figures.

The improvement program would cost \$62,568,000 alone to complete, the engineers said, and about \$87,568,000 if it is decided to abandon the Schuylkill River, from which the city now pumps 55 per cent of its water, and pump 500,000,000 gallons daily at the Torresdale intake.

Annual Costs Compared

In terms of total outlay, annual cost and additional cost to water users, by percentage, respectively, the four alternatives are:

Delaware River Project (including internal improvements): \$315,719,000; \$14,735,000; 102 per cent.

Yardley-Wallpack Bend Project (including internal improvements): \$185,014,000; \$12,139,875; 66 per cent.

Internal improvements (abandonment of Schuylkill): \$87,568,000; \$9,007,925; 23 per cent.

Internal improvements (retention of Schuylkill): \$62,568,000; \$8,221,000; 13 per cent.

Not counting the improvements program under way, the Delaware River Project would cost \$284,588,000 and the Yardley-Wallpack Bend project \$137,456,100. Debt service on the former would require \$8,950,000 a year, and on the latter \$4,323,000.

Any one of the seven upland water projects could furnish safe and palatable water, after filtration, the engineers said. Water taken by tunnel from the Wallpack Bend dam would be purer, they said, than that which follows the river-bed to Yardley. They added:

"The water by the time it reaches Yardley would still be of satisfactory quality for a raw water supply, since it is susceptible to treatment and production of a thoroughly satisfactory and potable water by ordinary processes of filtration and treatment."

Present Pollution

The water sources now in use show a greater degree of pollution than that supplied to the filter plants of any other large city in this country, the engineers noted, and exceed materially the limit recommended by the U. S. Public Health Service as susceptible to rapid-sand filtration.

As a conservative basis for estimate, pending a complete study, the engineers chose rapid sand filtration as a method of purification of upland water. Supplementary processes for which claims have been advanced include the ozone and the activated carbon processes. The city has made extensive tests of the former, and it gave good results in re-

moving taste and odor from Schuylkill River water.

The report quotes from one by James F. Sanborn, consultant to the board, on the projected 80-mile tunnel, which would lie under hundreds of feet of rock and carry half a billion gallons daily to the proposed Warrington reservoir, straddling the Bucks-Montgomery County line at Neshaminy village.

Advantages of Tunnel

The tunnel, besides eliminating the present pumping from the two rivers, which makes up more than half the system's present operating cost, would be superior for freedom from maintenance cost, continuation of carrying capacity and safety from earthquake and aerial attack, Sanborn said.

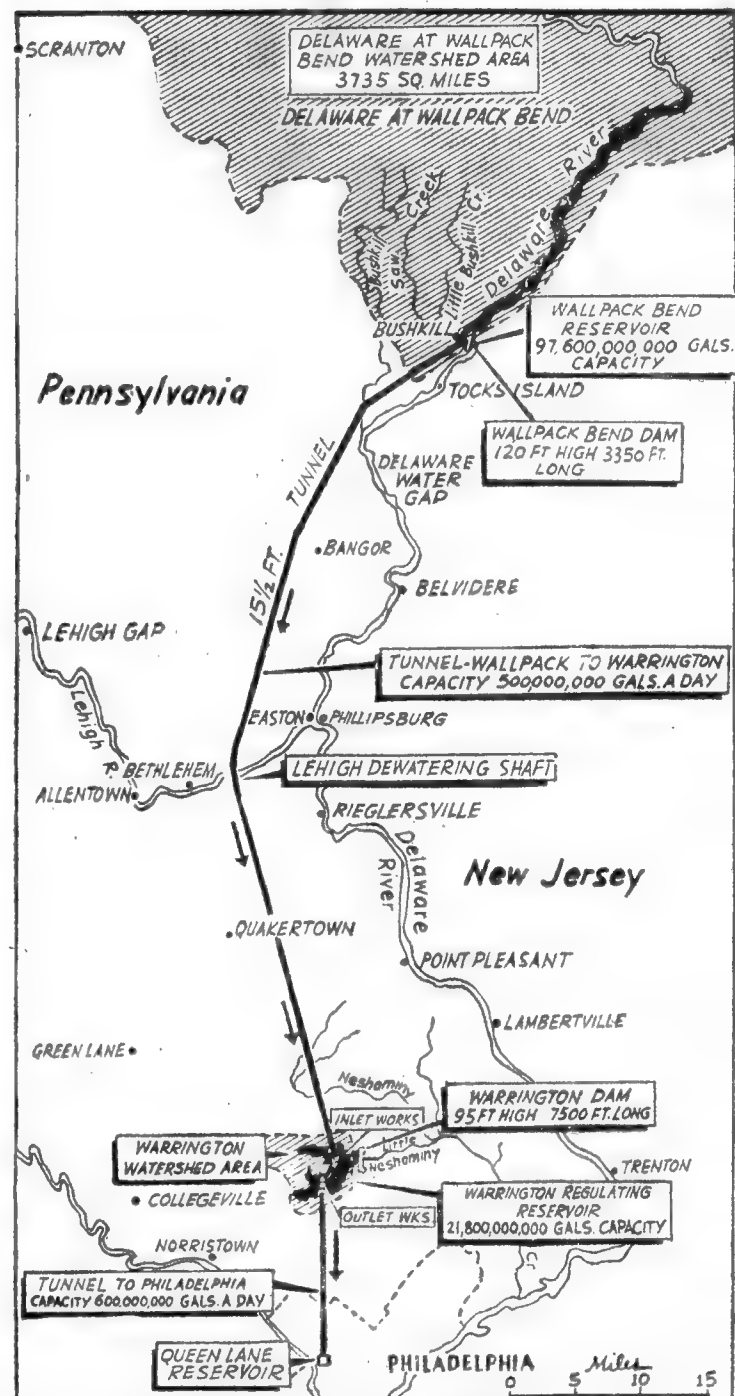
Interruption of the city's water supply, even for a day, would be a major disaster, Sanborn said.

Sanborn cited the decision of New York City to adopt pressure tunnels for the Delaware Aqueduct in 1938. The city had used other forms of construction on the Catskill Aqueduct.

In addition to the two projects on which costs were estimated, those considered by the engineers were the Lehigh-Pocono project, the Lehigh-Perkiomen, Upper Delaware River Basin Tributaries, Delaware River-Yardley and Upper Lehigh River Basin.

The board is composed of Charles A. Emerson, chairman, Francis S. Friel, secretary, Nathan B. Jacobs, Gustav J. Requardt, Joel D. Austin and William D. Williams, executive engineer.

Proposed 80-Mile Water Tunnel



Black line indicates route of Delaware River Project to supply Philadelphia with an upland water source at a cost of \$315,791,000

Engineers recommend Wallpack water plan

By HERBERT D. REIS

A board of engineers today in a report to Mayor Bernard Samuel's water commission recommended the damming of the Delaware river at Wallpack bend near Bushkill, Pa., and the channeling of pure drinking water by concrete-lined pressure tunnels to Philadelphia. The project would cost an estimated \$284,588,000.

This is a departure from an earlier plan by the engineers who recommended the Yardley project. Under this, the water supply would be obtained from Wallpack bend and flow through the open channel of the Delaware river at Yardley, Pa. From that point, there would be a flow through pressure tunnels to Torresdale, Warrington and Queen In.

The new upland water source plan will be studied by city council, which will decide whether there will be a referendum. Taxpayers, however, will not vote on it at the May 21 primaries.

Even if the plan is not authorized, the board of engineers found the city still must spend \$63,000,000 to improve and extend the present system.

An \$18,000,000 bond issue approved by taxpayers in 1940 for

improvement of the waterworks system is not sufficient. Increased costs have raised to \$46,000,000 the amount of the project started six years ago.

PROVIDES RESERVOIR

The recommendation for the Wallpack Bend project calls for the construction of a reservoir near Warrington in Bucks county. Concrete conduits would carry the

CONTINUED ON PAGE TEN

EXPERTS BACK UPLAND WATER

CONTINUED FROM PAGE TWO

water by gravity from Wallpack Bend to the reservoir and then to the Queen lane filter plant. New filters and transmission conduits here would bring the supply of unadulterated water to the distributing system now in use in Philadelphia.

Possible abandonment of the Schuylkill river as a water supply was considered by the engineers, who found that such a plan would result in a 23 percent increase in cost to consumers. This would mean the installation of pumping facilities and conduits to bring water from the Delaware river at Torresdale to the Belmont and Queen lane filter plants for purification.

The undertaking is unlikely, however, in view of antipollution programs now under way for purification of water from the Schuylkill.

The engineers found the present water supply yields about 325,000,000 gallons of filtered water daily, with approximately 55 percent coming from the Schuylkill and the balance from the Delaware river. The Wallpack Bend project would yield approximately 500,000,000 gallons daily.

REFERS TO WELLS

The report referred to the possible use of a ground supply, to be obtained from wells in South Philadelphia. Wells have been proposed at League Island park and the Municipal stadium, as a means of improving the distributing system.

If the Wallpack Bend plan is approved, it is proposed that the water-filter privilege be leased to a utility company, which would build and operate a plant.

In connection with the report, the engineers also announced they

had studied a plan made by the Lehigh Coal & Navigation Co. to bring a water supply from the upper Lehigh river. The board found the Lehigh plan would not yield enough water and that the supply "is unsuitable for use without filtration."

The voluminous report was signed by Charles A. Emerson, Francis S. Friel, Nathan B. Jacobs, Joel D. Justin and Gustav J. Requaardt. Council authorized the investigation last August.

Daily News

Saturday, April 27, 1945

Improved Water Cost Set at \$62,568,000

Map on Page 2

Rehabilitation of Philadelphia's water system will cost \$62,568,000 at the very least, but if the citizens want the top project—the Wallpack Bend proposal, which would impound the waters of the Delaware in the Poconos and pipe it to Philadelphia—the bill will be \$284,586,000 in addition to that.

That was disclosed yesterday in a final report of a Board of Consulting Engineers authorized to study the city's water needs by the Water Commission.

RATES MAY DOUBLE

If the minimum expenditure is decided on the individual water consumer will have to pay 13 percent more in water rents. If the top water project is put into effect the present water rates to the consumer will be more than doubled.

The report explained that of the \$62,568,000 required to modernize the present plant, \$28,155,000 represented increased construction costs since 1940, when the voters authorized an original sum of \$18,000,000 to start the water improvements. About half the original appropriation has already been spent.

HUGE INCREASE IN SUPPLY

The original \$18,000,000 investment was based on a daily supply of 350,000,000 gallons. The proposed additional expenditures contemplate yields of 500,000,000 gallons daily from both the present system and the Wallpack Bend project.

Both sources, the report declared, would provide "safe and palatable water," the local source through improved purification methods, while the upland supply, because of its origin, would be virtually free of contamination. Some filtration would be necessary in each case, it was explained.

The commission originally recommended that the choice of a future water supply be left to the voters and, in that connection, suggested that the matter be put before the electorate at the May 21 primary election.

HEARINGS ORDERED

City Council, however, ruled out the suggestion on the ground that insufficient time remained before the spring election to acquaint the public with the details of the proposed sources of water.

Instead, Council resolved that its Public Works Committee should hold a series of public hearings to determine the city's future water supply and that if it was deemed advisable the matter would be referred to the voters for a decision.

Councilman Phineas T. Green, chairman of the committee, announced that the first of the meetings would be held soon and invited all interested persons and organizations to attend.

The report, the board of engineers emphasized, is not recommending any plan, pointing out that the board was instructed by the commission to investigate both new and present sources and report its findings.

However, the contents of the voluminous report favors the Wallpack Bend project on the upper Delaware River, without ruling out the potentialities of six other upland projects.

WALLPACK FAVORED

One upland project, that suggested by the Lehigh Coal and Navigation Co. to supply water from the Lehigh River, was ruled out because it would not supply Philadelphia with a sufficient amount of water.

It also asserts that the present sources of water supply in the lower Delaware and in the Schuylkill are polluted beyond the maximum considered acceptable by the U. S. Public Health Service.

Both sources, the report declared, would provide "safe and palatable water," the local source through improved purification methods, while the upland supply, because of its origin, would be virtually free of contamination. Some filtration would be necessary in each case, it was explained.

The commission originally recommended that the choice of a future water supply be left to the voters and, in that connection, suggested that the matter be put before the electorate at the May 21 primary election.

City Council, however, ruled out the suggestion on the ground that insufficient time remained before the spring election to acquaint the public with the details of the proposed sources of water.

UPLAND SOURCE FREE

It is improbable that all the causes of these tastes and odors can be removed. The upland source of supply is free from industrial waste pollution and contains only slight

sewage pollution at the present time. As far as can now be predicted the drainage area tributary to the upland source of supply will not be subject to concentrated industrial development.

"The board of consulting engineers is of the opinion that the upland source of supply will be free of tastes and odors after filtration but that such freedom cannot be maintained at all times if the present sources of supply are retained."

WATER ANALYZED

After going into an exhaustive analysis of the low quality of water taken from various points on the Schuylkill and Delaware near Philadelphia, the report concludes: "These comparisons demonstrate that waters of both the Schuylkill and Delaware are now polluted to an extent greatly exceeding the maximum recommended as permissible for raw water supplies to be purified by standard rapid sand filtration and must be supplemented by auxiliary treatment to an extent much greater than recognized as customary in treatment of waters carrying the maximum permissible degree of pollution. Slow sand filtration, as recommended, constitutes such a method."

Regarding modernization of the present system, the report said it was both desirable and necessary even if the city should go to an upland source for its future water supply. "Many of the contemplated improvements (in the existing system) are essential to secure a better quality of water from existing sources than has hitherto been possible with present inadequate and semi-obsolete facilities. "In addition, deterioration of equipment has in numerous instances progressed to such a stage that there can be no guarantee of continuity of performance even at efficiencies much lower than at date of installation."

MODERNIZATION URGED

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NEW FACILITIES NEEDED

The revised improvement program calls for additional filtration facilities at Torresdale and Belmont pumping stations, as well as replacements in the 2500 miles of pipe, 50,000 valves and 20,000 fire hydrants, which make up the water distribution system.

At present the city draws its water from the Schuylkill and Delaware Rivers. The report pointed out that if in the future the city decided to abandon the Schuylkill as a source of raw water, the added investment necessary to bring water from the Delaware River to the Belmont and Queen Lane filter plants would add \$25,000,000 to the anticipated cost of rehabilitating the existing system.

DAM PROPOSED

The Wallpack Bend project, originating in a watershed area of 3735 square miles near Bushkill in the Poconos, includes construction of an impounding dam across the Delaware River at Wallpack Bend, with 80 miles of concrete-lined pressure tunnels carrying the water by gravity to a distribution reservoir near Warrington, Bucks county.

The plan also embraces construction of new filters of the rapid sand type at Queen Lane pumping station for purification of the water and transmission conduits to connect with the principal mains of the city's present distribution water system.

An added advantage of the Wallpack Bend project, according to the report, is the possible development of hydro-electric power.

"It is assumed," the report continued, "that when the Wallpack Bend dam is constructed that some one of the neighboring power companies would soon find it advantageous to use the power."

"A desirable arrangement would be the lease of the water power privilege to a company which would build and operate the power plant at its own cost and expense."

INCOME FROM RENTALS

"While it is too far in advance to determine precisely the value of such power and energy, computations indicate that a favorably situated power company could, under present day conditions, afford to pay the city a rental of approximately \$89,500 a year for this water power privilege."

Referring to the cost of the two projects, the report stated that both proposals could be paid for out of additional water rent revenue, making both self-liquidating.

BOND SALE PROPOSED

The board of engineers estimated that water rent revenue under the Wallpack Bend project would total \$14,735,475 annually, while the revamped existing system would return \$8,221,675 annually to the city. Each would be sufficient to amortize construction costs and pay for maintenance.

In the matter of financing the projects, the report suggested that this be done either through the issuance of general city bonds or by utilizing the Philadelphia Municipal

Authority, which has authority to issue bonds.

The Municipal Authority was authorized by the State Legislature in 1935 and organized here in 1938, but has never functioned. It has authority to issue securities for long-range public projects, with the stipulation that the bonds are to mature not later than 40 years from date of issue.

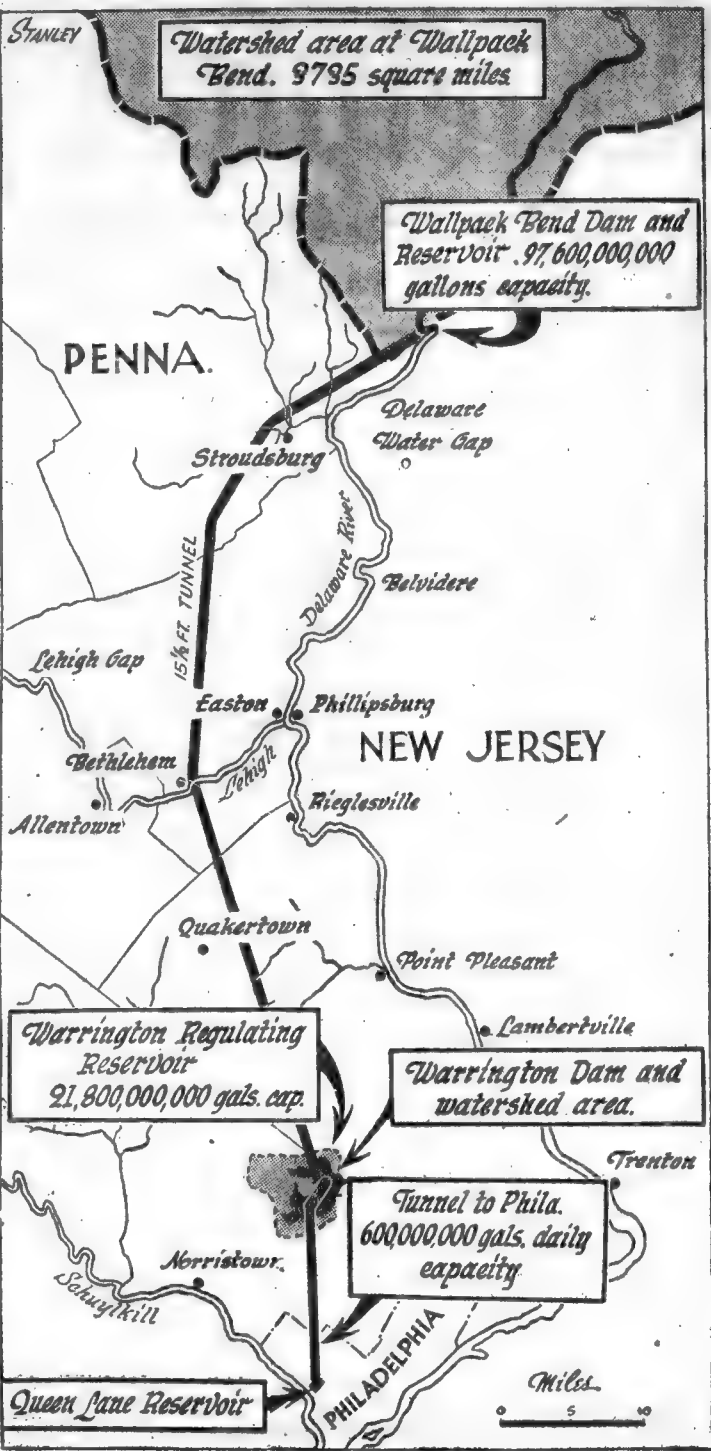
The report dismissed as impractical a suggestion that wells be drilled in South Philadelphia to augment Philadelphia's present water supply.

The board of engineers in an appendix to its report ruled out the plan of the Lehigh Coal and Navigation Co. to supply water from the upper Lehigh River on the ground that the project "will not yield a sufficient quantity of water for Philadelphia's future needs."

It added that the water from this source would be unsuitable without filtration and that the cost of construction would be greatly in excess of the \$142,122,000 quoted by the Lehigh Coal and Navigation Co.

The Lehigh plan was one of eight upland sources studied by the engineers. The Lehigh project, however, was received too late to be incorporated in the engineers' preliminary report.

The board of engineers is composed of Charles A. Emerson, Francis S. Friel, Nathan B. Jacobs, Joel D. Justin and Gustav J. Requardt.



TOP WATER PROJECT

Here are the details of the Wallpack Bend project for supplying Philadelphia with clean water. It would cost \$284,586,000 in addition to millions which must be spent to maintain the local water supply.

LEHIGH COAL & NAVIGATION CO. GETS MORE TIME ON WATER GRAB AS REFERENDUM IS DEFERRED

Twelve million dollars is a lot of money!

And unless the Lehigh Coal and Navigation Company stops "throwing its weight around" on the basis of that tremendous profit it stands to make on a water source deal, Philadelphia may find itself in the throes of the biggest scandal in its history.

The Lehigh Coal and Navigation Company is determined to foist its Lehigh-Pocono water source down the throats of Philadelphia taxpayers. How they plan to put that deal across despite engineers' findings as to the greater advantage of another supply, is anyone's guess.

But it remains a fact that \$12,000,000 is a lot of money and properly used can court considerable favor to any scheme.

It has already been decided that the people of Philadelphia are not competent to vote on a choice of water supply in the June primary, as had previously been planned.

Powerful figures are at work "selling" the Lehigh-Pocono water source. A very small portion of the \$12,000,000 the Navigation Company stands to realize on the deal can provide for a magnificent payroll.

The Navigation Company maintains its project would cost the city only \$142,000,000, including the \$12,000,000 the firm would receive for a few acres of worthless mountain land. But engineers hired by the city declare that water source would cost at least \$350,000,000.

When one of the Navigation Company "salesmen" put forth the \$142,000,000 cost figure before a city business men's group, he was asked if his firm would undertake to bring the water here for that price.

"Well," he stammered, "we're not in that kind of business."

The fact remains, however, that the Lehigh Coal and Navigation Company could procure those whose business it is, just as the City of Philadelphia will have to do.

There is little hope that the people of Philadelphia will get the water supply source which is to their best advantage. The Wallpack-Bend Project, which would take water from the upper Delaware, and which has been favored by experts, has no \$12,000,000 bait to put it across.

Last week Robert V. White, president of the Lehigh Coal and Navigation Company, told that firm's stockholders there would be seven more years of prosperity. He did not elaborate on his prediction, nor did he reveal whether the prosperity would come from coal, navigation—or water.

Glenn O. Kidd, secretary and chief water peddler for the Lehigh Coal and Navigation Company, continues to address groups with the same old story of how cheap Lehigh-Pocono water will be.

He has the gall to do this in spite of the fact that Water Commission engineers have set the cost of that water source at almost three times the amount Kidd claims it will be.

Kidd applauded the action of City Council in deferring a referendum on the subject of a new water source until the people of Philadelphia are better acquainted with the facts.

What he probably means is the people will become better acquainted with facts AS PRESENTED BY THE LEHIGH COAL AND NAVIGATION COMPANY.

After Kidd gets through spouting off about how soft the Lehigh-Pocono water is, he may do well to read a report from an im-

partial source to which no \$12,000,000 profit will be forthcoming.

It states:

With a definite program under way to reduce pollution in the Delaware and Schuylkill rivers, it seems pertinent to examine the remedies required to eliminate the faults that would still remain with the present raw water supply.

Popular judgment condemns the water supplied by the city because of its taste and occasional odors. Tastes and odors in water arise generally from vegetables and animal matter, and chemical and other wastes, not removed from the water by filtration, or from excessive chlorine, or from the reaction of chlorine on foreign matter remaining in the filtered water. In recent years more than 200 cities have solved their taste and odor problems by super-chlorination (using large quantities of chlorine in the water before it is filtered), or by treating the filtered water with activated carbon or with ozone (an allotropic form of oxygen).

Philadelphia's most extensive experiments have been with ozone. During 1941 and 1942 the city treated Schuylkill river water with ozone and obtained excellent results in the reduction of objectionable tastes and odors, as well as in the sterilization of the water, and also the elimination of manganese, which makes water brown.

Water from the Schuylkill averages 130 parts per million of hardness, and water from the Delaware at Torresdale averages 65 p.p.m. Hardness arises largely from the presence, in solution, of carbonates or sulphates of magnesium or of lime. Water with a hardness of less than 50 p.p.m. is classified as soft water and ordinarily is considered unobjectionable for domestic use. It is doubtful whether the cost of softening the Schuylkill water to below 50 p.p.m. would be justified, even though water users would obtain substantial savings in soap and in the cost of maintenance and replacements of heating equipment.

Taken together, the Delaware and Schuylkill rivers can provide all the water the city requires. However, in times of drought, pumpage from the Schuylkill has nearly equaled the flow of the river. This situation creates a nuisance downstream, as well as an alarming danger of a water shortage from that source. A number of solutions are possible. The facilities at Torresdale may be enlarged so as to draw more water from the Delaware; water may be obtained from wells in South Philadelphia; or water may be obtained from development of the Perkiomen and Tohickon watersheds.

Treatment of the water from the city's present sources can produce a very satisfactory water, palatable as well as safe; and continuation of the use of these sources will keep Philadelphia's eggs in more than one basket. Decision as to abandonment or retention needs to be based on a variety of factors.

Among the most important of these are the costs of making the present sources completely satisfactory versus the costs of providing substitute or supplementary sources that would be adequate and satisfactory. In both instances, it is necessary to

consider not only the capital expenditures required, but also the costs of operation, maintenance and debt service—also depreciation and replacements.

To sum up the whole situation, Philadelphia, through the expenditure of only \$63,000,000 could provide as good water from its present sources as runs through the faucets of any large American city.

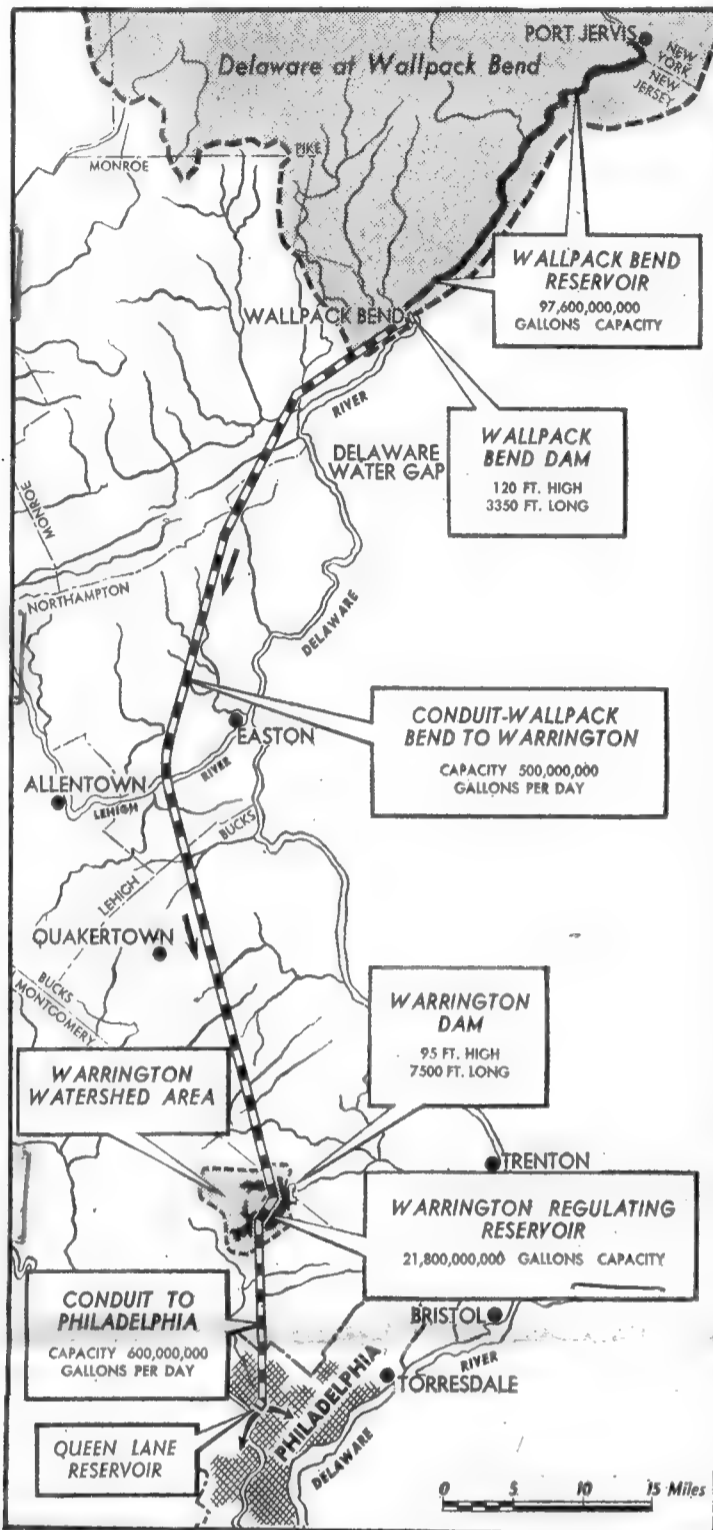
With both the Delaware and Schuylkill being cleaned up, that project would seem the most desirable from the standpoint of economy.

But it is doubtful whether the Lehigh Coal and Navigation Company will allow Philadelphia taxpayers to decide the issue from that standpoint.

Twelve million dollars is a lot of money!

CITY'S ONLY HOPE FOR GOOD WATER IS NEW SOURCE, ENGINEERS FIND

Price: \$284,588,000



Over-all plan of the proposed Wallpack Bend water supply project.

BOARD OUTLINES PLAN FOR TAPPING UPPER DELAWARE

Final Report Made After Nine-Month Survey Is First Complete Appraisal of No. 1 Problem

By LEEDS MOBERLEY

A conviction that has persisted with the man in the street for a generation, in spite of official statements from City Hall, received scientific corroboration yesterday:

Philadelphia never will have really good drinking water until it taps a new, uncontaminated upland source.

The corroborating authority was the board of consulting engineers to the Mayor's Water Commission, a disinterested group of specialists with national reputations in the field of water supply.

Final Report Filed

The board filed its second and final report yesterday after nine months of study of this city's present sources, the prospect for the future, and the various proposals for bringing in a new supply from the Poconos.

Exhaustive Analyses

It was the first complete engineering appraisal ever made of Philadelphia's No. 1 problem.

With a field force of 30 to 35 men, the board made exhaustive water analyses, topographical surveys, geological studies and test borings for conduits. It prepared preliminary plans, with detailed cost estimates, for taking water from the Upper Delaware at Wallpack Bend—the project favored by the commission. And, finally, the board restudied the needs of the present waterworks.

Pulls No Punches

The result is a bulky (143 type-written pages plus 33 maps, charts and diagrams) and remarkably blunt document, which goes into full particulars and pulls no punches.

It declares frankly that our present sources of water supply, the Lower Delaware River and the Schuylkill, are the worst of any major American city's.

It presents figures to show that the degree of pollution in both exceeds, several times over, the maximum considered acceptable by the U. S. Public Health Service.

Contrary to the statements of city engineers, the report finds Philadelphia discharges raw sewage into its own water supply in both rivers—the Schuylkill as well as the Delaware.

It declares the city's sewage treatment plants as now planned are not adequate even to protect a bathing beach—much less a great city's water supply.

Finally, it finds that no matter how successful the cleanup campaigns now getting under way may be, "it is certain that much pollution will remain."

"The board of consulting engineers is of the opinion," the report concludes, "that the upland source of supply (on the Upper Delaware at Wallpack Bend) will be free of tastes and odors after filtration, but that such freedom cannot be maintained at all times if the present sources of supply are retained."

If in spite of all this, Philadelphians have the stomach to keep their present sources, the report recommends a minimum expenditure of \$62,568,000 to restore and modernize the waterworks. That is on top of the \$18,000,000 loan authorized in 1940 and now about half spent; the report finds that the \$18,000,000 will hardly scratch the surface.

Against Using Schuylkill

In any case, the engineers believe it may be necessary at some future date to abandon the Schuylkill, which they consider just about hopeless, and use the Delaware exclusively. That would cost an estimated \$25,000,000 more, for a total of \$87,568,000.

The report fixes the cost of the Wallpack Bend project at \$284,588,000. Of that amount, \$243,151,000 represents the cost of land, damages and construction of dams, aqueducts and other facilities to bring the water to the city.

The remaining \$41,437,000 is for rapid sand filters and distribution connections. Although the engineers recommend filtration

WATER ENGINEERS SAY LEHIGH PLAN IS TOO EXPENSIVE

Declare Company Estimates Were Less Than Half of Cost

By LEEDS MOBERLEY

The board of consulting engineers of the Mayor's Water Commission figures the Lehigh Coal & Navigation Company's water supply plan actually would cost upward of \$345,000,000, it was learned yesterday.

That is more than \$60,000,000 higher than the estimated cost of the plan favored by the Commission, to tap a new source on the Upper Delaware River at Wallpack Bend.

2½ Times Lehigh Estimate

It is almost two and a half times the \$145,122,000 estimated by the Lehigh Company's engineers.

The Commission's engineers made a special study of the Lehigh plan and presented their findings in a confidential report in January. This report, it can now be revealed for the first time, bluntly accuses the Lehigh company of misrepresentation, miscalculation, underestimation of costs and "inadequate engineering design."

None of this was contained in the engineers' bulky final report which was released for newspaper publication on Saturday. The latter document was an overall survey of the water problem which made only passing reference to the Lehigh Plan.

Must Tap New Source

It was, however, a definitive study which among other things corroborated the layman's conviction that Philadelphia never will have really good drinking water until we tap an uncontaminated upland source. It offered no hope of ever fully reclaiming the grossly polluted Schuylkill and Lower Delaware.

The engineers estimated the cost of the favored Wallpack Bend project at \$284,588,000. They found the waterworks so run down that if we keep our present sources we will have to spend at least \$62,568,000 on it. Even if we decide on an upland source, we will have to spend \$31,203,000 on the existing waterworks to guard against breakdowns during the construction period.

The final report devotes only one typewritten page to the Lehigh plan. It goes into no details but simply concludes that "this Lehigh plan will not yield a sufficient quantity of water for future needs of Philadelphia; that the water is unsuitable for use without filtration (contradicting one of the company's most-touted selling points) and that the cost of construction would greatly exceed \$142,122,000."

Say Yield Overestimated

The plan proposes to dam the Upper Lehigh River and from two to five of its tributaries, bring the impounded waters through an aqueduct to a reservoir on Jericho Creek and thence

to the northeastern city limits. That is as far as it goes.

The Commission engineers' confidential report takes issue with the plan on virtually every point.

First of all, the Commission's engineers accuse the Lehigh engineers of estimating the yield of water at 7½ percent more than the actual stream flow as recorded over a 16-year period.

They declare the reservoirs would fall so low at times that "many hundreds of acres" of reservoir bottom would be exposed for extended periods. This, they assert, "would offer opportunity for the growth of vegetation which on subsequent refilling of the reservoir would produce offensive tastes and odors."

Would Need Filtration

They report that the water itself, though comparable in quality to other upland supplies, still contains enough pollution, color, corrosiveness and turbidity (cloudiness) to require "filtration and supplemental treatment to continuously maintain a safe, palatable, clear and altogether satisfactory water supply."

"Without filtration," says the report, "the average turbidity would be at least twice the average turbidity of water presently being supplied in the city of Philadelphia."

But the commission's engineers find all those considerations of secondary importance. What they regard as of primary importance is the question of cost. And this is what they have to say:

"The Lehigh Coal & Navigation Company has greatly underestimated the total cost of their plan for a water supply. Part of the underestimation is due to the use of inadequate unit prices for various classes of work and materials. Other underestimations occur because of inadequate design.

Disapprove Tunnel Designs

"The Lehigh Coal & Navigation Company has presented . . . a condensed breakdown showing a few of the important cost elements. . . . Among the significant items listed is 'earth fill' for construction of various dams. This is estimated in two instances at 70 cents per cubic yard and in another instance at 65 cents per cubic yard.

"In September, 1945, the New York Board of Water Supply received bids for the completion of Merriman Dam in the Upper Delaware River basin. An item for 5,600,000 cubic yards of 'earth fill' was bid at 93 cents, \$1.03 and \$1.15 per cubic yard respectively by the three lowest bidding contractors."

The report suggests the Lehigh estimates must have been based on pre-war costs.

As for design, the Commission engineers disapprove the low-cost unlined grade tunnels, near the surface of the ground, which the Lehigh plan proposes to carry the water most of the distance from the upland reservoirs.

Favor Pressure Tunnels

They favor concrete lined pressure tunnels deep in bedrock, such as New York uses, as safer, more foolproof and more durable. An unlined tunnel is subject to seepage and possible contamination from underground drainage.

They also declare the 11-foot diameter of the tunnels proposed in the Lehigh plan is too small.

So, using the type of construction on which they based their estimates for the Wallpack Bend project, they figured it would cost \$320,000,000 to bring the Upper Lehigh water to the city limits. That includes no provision for filtration equipment or connections to the distribution system.

It would take at least seven more miles of pressure tunnel—at a little over \$2,000,000 a mile—to bring the water from the city limits to the Torresdale filtration plant. Improvements to the Torresdale filters to handle the new supply would cost another \$10,573,600, engineers estimated.

That adds up to \$345,000,000 plus.

The \$284,588,000 estimate for the Wallpack Bend plan figures \$243,151,000 to bring the water down to Philadelphia and \$41,437,000 for a new Queen Lane filter plant and distribution connections.

The Commission engineers said if they used the Lehigh company's basis of designs and unit costs on the Wallpack Bend plan it would figure up to only \$107,000,000.

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EDITORIALS

For Better Water: A New Source

To obtain better water Philadelphia must abandon its present supply and establish new sources outside the city.

That is the essence of the final report presented by the Water Commission's Board of Consulting Engineers.

It riddles the fanciful contention that there isn't much difference between upland water and that taken from the city docks except that the former would cost much more.

Town-pumpers who insist that Philadelphians continue to gag on Delaware and Schuylkill water have argued that once the stream-cleansing program is completed river water will be just as "safe and palatable" as spring water, and much cheaper.

The engineers, after a nine-month study of available sources, state very flatly that our water will never be made free of tastes and odors if the existing supply is retained.

They point out, additionally, that \$62,568,000 will be required just to put the present system into workable condition.

That would be \$62,568,000 literally thrown down the drain.

We would spend those millions and continue to obtain the same ill-tasting, bad-smelling stuff that now flows from our spigots.

So far as dependence upon the river-clean-up projects for purifying our drinking water is concerned, that is something for the dim future. No one can possibly foretell when the Delaware and Schuylkill will be freed from pollution—if they ever are.

This State's program for sewage diversion and the abatement of industrial and mine discharges is just beginning. If it becomes 100 percent effective, there remains the pollution caused by communities and industries of other States.

Even if all contemplated measures to eliminate pollution of the two streams are effectuated, the water will still not compare in free-

dom from tastes and odors with that procurable from upland sources.

In the matter of price, the figures mentioned for possible upland supplies are not as prohibitive as may appear at first glance. Although the engineers do not recommend any specific source, they pay major attention to that favored by the Water Commission, the so-called Wallpack Bend plan which would tap the upper Delaware.

Water of high quality and ample quantity could be brought from there for an estimated \$285,000,000, plus \$31,000,000 for stop-gap improvements to the present system. To finance such a project out of water receipts the revenues would have to be increased about 100 percent.

When it is borne in mind that the average householder here pays only \$8 a year for water, an additional levy of \$8 in order to assure decent, drinkable water is surely not unreasonable.

It certainly should be worth \$16 a year to our people to give up the supply system that is more highly polluted than that serving any other large city in the country, and have, at last, clean, sparkling water in their homes.

The Wallpack Bend plan is not the only upland supply available. There are numerous others, with the water taken from mountain streams and tributaries of the Delaware and the Lehigh rivers. Conflicting cost estimates have been presented for some of these, so that no clear-cut determination of their relative value is yet possible.

With the Board of Engineers' report as basic material, Council should hold public hearings to explore the possibilities of the various suggested plans in an effort to hit upon the one supply source that is unquestionably the best for Philadelphia.

For it is the best that this city wants and should have, not filtered sewage but clean water fit to drink.

Poll on City Water

(Continued from the First Page)

water is not satisfactory were asked to tell what is wrong with it.

"Bad Taste" was the response from more than half of those talked to. But to the 58 per cent who gave that answer must be added the 20 per cent who said it has too many chemicals in it; the 16 per cent who said it was unfit to drink and those who called it dirty, filthy, or impure. All more or less add to the same thing.

All those who felt the water now is unsatisfactory (89%) were asked: "Do you think that the water can be made satisfactory by cleaning up the rivers?" The replies, figured on the basis of everybody talked to, whether they're satisfied with the water or not:

	Men	Women	Total
Yes	32%	40%	36%
No	50	28	39
Don't know ..	7	21	14

Owners and Tenants

Broken down by home owners and tenants, the answers were:

	Owners	Tenants
Yes	33%	40%
No	42	33
Don't know	16	11
Total	91	84

The 92 per cent of the Democrats and 86 per cent of the Republicans who are not satisfied with the water, replied this way:

	Dem.	Repub.
Yes	35%	37%
No	46	37
Don't know	11	12

Those who felt that the present supply is unsatisfactory and that cleaning up the rivers will not give them the kind of water they want, were asked: "Do you think it will be necessary to bring water here from upstate streams and reservoirs?"

Previous Pattern Followed

This group made up 53 per cent of everybody talked to in the poll. Among men and women and by politics, the answers followed the pattern of the previous question. By owners and tenants the replies were:

	Owners	Tenants	T'l.
Yes	49%	35%	45%
No	1	3	2
Don't know ..	7	6	6
Totals	57	44	53

Everybody interviewed was asked: "Would you be willing to pay through increased rent, water bills or taxes, if necessary, to meet the cost of bringing upstate water to Philadelphia?"

The answers:

	Owners	Tenants	T'l.
Yes	59%	51%	56%
No	36	35	36
Don't know ..	5	14	8

Two-thirds of those talked to said that they paid their water rent directly, rather than having the charge hidden in rent or board.

THE BULLETIN POLL

Majority of Philadelphians Willing to Pay Extra for Upstate Water

Only 11 Per Cent Satisfied with City Supply Now;
36 Out of 100 Favor Cleaning up of Rivers

By PAUL TRESCOTT
(Of The Bulletin Staff)

Opinion of the rank and file of Philadelphians on the water question is closely divided, but a clear majority say they would be willing to pay the extra cost of obtaining upstate water.

Before the Water Commission made its report, published last Saturday, interviewers for The Bulletin Poll sounded citizen opinion on the water question by talking to a representative cross-section of the city's adults.

Only 11 Per Cent Satisfied

These interviewers found:

Only 11 per cent of the people they talked to are satisfied with the city's water now.

Thirty-six per cent more believe that the water can be made satisfactory by cleaning up the rivers.

Forty-five per cent believe an upstate source is needed.

Fifty-six per cent say they are willing to pay the extra cost required to get water from upstate. Some of these obviously believe that

the rivers can be cleaned to furnish satisfactory water, but prefer the other source.

The present attitude reflects a slight change from a year ago when somewhat similar questions were asked in another poll. At that time 85 per cent of the people interviewed were dissatisfied with the water; now the figure is 89.

More Women Than Men Satisfied

More women than men believe the present supply satisfactory, and more also think that the rivers could be cleaned up sufficiently to suit them.

As was the case a year ago, there remains a tinge of politics in the water question. Then 22 per cent of the Republicans and ten per cent of the Democrats felt that the water was satisfactory; now only 14 per cent of the Republicans and 8 per cent of the Democrats.

Home owners are more critical of the water than tenants. Only 9 per cent of the owners are satisfied; 16 per cent of the tenants.

Those who felt that the present

(Continued on Page Three, Column Eight)

Engineers Reject Lehigh River For New Phila. Water Supply

Experts Advocate Wallpack Bend As Cheaper and Better Source

The proposal of the Lehigh Coal and Navigation Co. for providing Philadelphia with a pure water supply by damming up the Lehigh River and several of its tributaries was turned down by consulting engineers of the Mayor's Water Commission not only because it would supply insufficient water but also because of its cost.

That was learned yesterday as an aftermath of the issuance of the engineers' report on Saturday, after a year of study.

COST \$245,000,000

It was disclosed that the commission had received a confidential report in January which estimated that the Lehigh Valley project would cost more than \$345,000,000—considerably more than the estimated cost of \$284,588,000 on the Wallpack Bend project in the Pocos.

The latter project, markedly favored in the engineers' report, was regarded as capable of supplying all of Philadelphia's water needs far into the future.

8 PROJECTS STUDIED

The Lehigh River Project and the Wallpack Bend project were two among eight upland potential water sources studied by the engineers, who asserted they were not recommending particularly any one of the several projects.

In their final report, on Saturday, they dismissed the Lehigh River project by saying merely that it could not provide all the water Philadelphia needs if the present sources—the polluted Schuylkill and lower Delaware—are even partially abandoned.

UNDERESTIMATED COST

In the confidential report of last January, however, it was said that the Lehigh Coal and Navigation Company had underestimated the cost of its suggested project.

That report said the engineers for the company had overestimated the stream flow of the Lehigh and its tributaries by 7½ percent. It added that if dams were constructed there would be times when hundreds of acres of reservoir bottom would be exposed. That would mean, it was argued, that plants would grow and that eventually they would give unpleasant tastes and odors to the water.

GREATER TURBIDITY

"Without filtration," the January report states, "the average turbidity would be at least twice the average turbidity of water presently being supplied in the City of Philadelphia."

The report also suggested that the estimate of costs by the Lehigh Coal and Navigation Co. had been based on pre-war figures for labor and materials, and not on the enhanced prices of today.

Water Uncertainties

PHILADELPHIANS who study the final report of the Water Commission's Board of Consulting Engineers find no definite recommendation as to what ought to be done about the city's water supply.

The engineers had two questions to answer: Should the city abandon its present water sources? If so, what are the possibilities of getting good water from upland sources?

The final report deals exhaustively with the probable future quality of the present sources. The engineers seem to believe that a good, if not perfect, river water can be had if the city will spend \$62,000,000 in addition to the unexpended balance of the current \$18,000,000 water loan.

Hence, though the engineers neither predict nor advise, one of the alternatives before the city is to see what can be done through expenditure of \$62,000,000 of its own money plus the efforts of other river cleansing agencies that are now on the move.

In their preliminary report, made last November, the engineers stated that if the present sources were to be abandoned, a project known as Yardley-Wallpack Bend was their choice. In the final report major emphasis is rather strangely placed on another plan—the so-called Delaware River project.

Both plans contemplate a dam at Wallpack Bend, on the Delaware, but the Yardley-Wallpack Bend plan would bring the water to Yardley through the bed of the Delaware, whereas the Delaware River project would bring it to a dam at Warrington, in Bucks County, through a deep tunnel.

The Delaware River plan, which the engineers say the Commission itself "selected for development" in the final report, involves a capital expenditure of \$284,000,000. The Yardley-Wallpack Bend project involves capital expenditures of \$137,000,000.

Sticking to the present sources at a cost of \$62,000,000, or going to the upper Delaware at a cost of either \$137,000,000 or \$284,000,000, are the three choices which stand out as possibilities in the engineers' reports. Either upland plan would probably give better water than the present sources, but whether it would be enough better to justify the cost is a question not answered.

When the hearings before Council get under way, it would be interesting to learn why the Water Commission selected the \$284,000,000 plan rather than the \$137,000,000 plan, or several others, for "development" by the engineers.

Meanwhile, the consumer will understand that water supply improvement, admittedly needed, is going to show up in his water bills. He will have to ask himself what he wants — better water from present sources, at moderate increased cost; upland water which will double his water bills (in addition to the sewage charges now imposed), or something in between.

He will not have to hurry to make up his mind. The subject is wrapped up in technicalities; engineers differ about it. A layman will need all the illumination he can get to reach a right decision.

IMPORTED VS. DOMESTIC



Year's Water Study to Be Used Only as 'Reference' at Hearings

Garman Says Council Will Start Afresh

The full year's search of the Mayor's Water Commission for a new water source for Philadelphia will be used only as a "reference" when City Council begins public hearings on the proposed multi-million dollar project, President of Council Frederic D. Garman announced yesterday.

Mr. Garman, at the end of a closed session of members of the commission and City Council, said that City Council "undoubtedly will start from scratch" but added that the results of the commission's extensive work undoubtedly would carry heavy weight in arriving at a decision.

Councilman Phineas T. Green, chairman of council's Public Works Committee, which will conduct the hearings, said that the date for the first public session would be announced today. Council, he added, intends to avoid a hasty decision and will hear "all interested parties."

With Council following the attitude expressed by Mr. Garman, the door is opened again for the so-called Lehigh-Pocono project of the Lehigh Coal and Navigation Co., which was ruled out by the commission.

PLAN CRITICIZED

Engineers of the commission maintained that the plan of the coal company to tap the Lehigh River and its tributaries would not supply Philadelphia sufficient water and would cost far above the \$142,-122,000 estimate of the company's engineers.

Mr. Garman, who was present for only part of the caucus, which was requested by the commission, was asked if Council will base its decision on the final report of the commission which was filed last week.

CONDUCTING OWN HEARINGS

He answered that Council would conduct its own hearings but the commission's consulting engineers "will play a leading part in the discussions."

Wide public opinion is wanted, he indicated, before Council makes its decision. Public hearings, said Councilman Green, will be open to "all interested parties. We want as big a representation of opinion as possible."

COMMISSION PRAISED

Councilman Green said that the commission, headed by Herbert W. Goodall, had given Philadelphia its most complete search for a new water source since the middle 1800's.

Most favored of projects studied by the commission is to tap the Delaware River at Wallpack Bend. This would cost an estimated \$284,588,000 plus \$62,568,000 needed to bring the city's present system of distribution into top condition.

Open Hearings on Water

In throwing "wide open to all interested parties" the coming hearings on possible new water supply sources for Philadelphia, Council has taken a wise course.

Prejudice and favoritism must be rigidly excluded from the intensely important project of securing better drinking water for our people. Too often in the past there has been the suspicion that the investigations preliminary to adoption of a water plan were too narrow in scope.

Council will start from scratch in its latest attempt to choose a new source. That does not mean the members will ignore the reports of the Water Commission and its board of consulting engineers, which have covered the ground most comprehensively and can be most helpful. Of particular moment is the engineers' explicit warning that if Philadelphia wants to get rid of ill-tasting and ill-smelling water it must abandon the existing sources.

The problem before Council is to hit upon the upland source that can supply the best quality water in sufficient quantity at a cost this city is able to afford.

In arriving at its decision, Council will re-appraise the Wallpack Bend plan most favored by the Water Commission—which would tap the water of the upper Delaware and pipe it to the city at a cost of \$285,000,000 plus added amounts required for stop-gap improvements to the present distribution system—but will also go exhaustively into all suggested alternate projects.

The relative worth of the various upland supplies has not yet been clearly portrayed to the public. Public hearings should accomplish this, opening the way for final determination on the best possible source of supply.

Wallpack Fights City Water Plan

WALLPACK CENTER, N. J., May 4 (AP).—Contending scores of homes and farm buildings were in the area that would be flooded, residents of three Sussex county townships have organized opposition to a proposed Delaware Valley reservoir to supply Philadelphia with water.

At a meeting here last night, 100 persons from Wallpack, Montague and Sandyston townships formed a citizens' committee for preservation of the Delaware Valley.

FEAR BIG PROPERTY LOSS

During the meeting, Frank McBride, Paterson contractor who owns property in Wallpack township along the Delaware River, and others asserted valuable property and many buildings would be lost as they were in the flood area.

The western boundary of Sussex county, they declared, would be wiped out and the townships would lose a large portion of their ratables.

In addition, they said some means of communication between New Jersey and Pennsylvania would be inundated, including the toll bridge at Dingman's Ferry, Pa.

OFFICIALS NAMED

The group named A. L. Aber, Wallpack Center school teacher, president, and McBride, secretary. A protest meeting was scheduled to be held here next Friday.

Aber is to name a board of directors, with four representatives from each township.

Approval of Philadelphia City Council and voters, and New Jersey, Pennsylvania, and possibly New York legislatures would be required for the project.

New Water Sources Urged By Radio Forum Speakers

PHILADELPHIA INQUIRER

May 7, 1946.

Appeals for speedy action to improve Philadelphia's water supply by tapping other than present sources were made yesterday by two prominent attorneys during the Philadelphia and Suburban Town Meeting broadcast over WFIL.

The speakers, Frank B. Murdock, special counsel for Mayor Bernard Samuel's Water Commission, and Charles E. Kenworthy, former Superior Court judge and now counsel for the Lehigh Coal and Navigation Co., aired their views in the broadcast of the symposium lasting from 4 to 4:30 P. M. Robert K. Sawyer, staff engineer for the Bureau of Municipal Research, served as moderator.

CITES POLLUTION

In discussing the proposal to bring the city drinking water from the upper reaches of the Delaware, Mr. Murdock reviewed the gradual pollution of the lower Schuylkill and stated that "nearly everyone is in agreement that this source should be abandoned."

"Since the Civil War," he said, "the increase in population and growth of industry along the Schuylkill have combined to make this river an unsatisfactory source of raw water by any standard. The humbly sewage of Pottsville, Reading, Pottstown, Bridgeport, Norristown and Conshohocken, together with phenols, sulphates and acids spilled in by industry make this source undesirable."

TELLS OF INVESTIGATION

Mr. Murdock told of Mayor Samuel's appointment of an impartial group of citizens — leaders representing all shades of economic and political opinion in the city—to study the water situation.

This resulted, he said, in the hiring of consulting engineers who, after a nine-month study, recommended that the city take as its principal source of water the Upper Delaware River in the Blue Mountain area at a point known as Wallpack Bend, near Bushkill, Pa.

COST \$16 A YEAR

"The use of this water," Murdock added, "will mean that our generation and the generations to come will be able to turn on their faucets and get pure sparkling water. Although it will mean an average water bill of \$16 per annum, instead as the present \$8 charge, it will be worth while."

"Currently, City Council is conducting public hearings on the matter, not only to receive information from the Philadelphia Water Commission and Board of Construction Engineers, but to hear any citizen or

group of citizens who wish to give any information on the problem," he concluded.

URGES POCONO SOURCE

Mr. Kenworthy likewise advocated abandonment of the present source of supply, but urged that instead of the Wallpack Bend source, water be secured in the Poconos.

"Everybody concedes," he said, "that Pocono water is purer than Delaware River water to begin with. It would be purer to start with, its cost would be less and the net result would be that the people of Philadelphia would have the upland supply without the necessity of any increase whatever in the present water rates. It is the opinion of engineers who have surveyed the Pocono situation that water from this source would not have to be filtered—this in itself saving \$2,000,000 a year in operating costs."



DISCUSS PHILA. WATER SUPPLY

Charles E. Kenworthy (left), former Superior Court Judge, and Frank B. Murdock, special counsel for Mayor Samuel's Water Commission, who discussed plans to improve Philadelphia's water supply yesterday on the Philadelphia and Suburban Town Meeting, over Station WFIL.

WATER PLANS FOES WILL BE HEARD

Council Unit to Conduct Third Session to Get Views of Critics

Opponents of plans for improving Philadelphia's water supply will be given opportunity to voice their criticisms at a public hearing sponsored by City Council's Committee of Public Works, Councilman Phineas T. Green, chairman, said today.

Such a hearing, Green said, will be arranged in addition to one to be held next Tuesday, and another one now scheduled for May 22 for detailed discussion of the plans now being considered by Council.

"While the meeting Tuesday will be devoted exclusively to discussions of the various plans that have been made," Green said, "we do not wish to leave the impression that we will not hear those opposing the improvements.

"The schedule for Tuesday's meeting as well as the one May 22, however, will not permit hearing the opposition, and for that reason, a date will be arranged when any and all of the opponents may express their views."

The meeting Tuesday, Green said, will begin at 10 A. M. and continue until 1 P. M., when an hour's recess will be taken and resuming at 2 P. M., continue until 4.30 P. M.

First to be heard, Green said, will be Herbert W. Goodall, chairman of the Philadelphia Water Commission. He will be followed by engineers of the Bureau of Water, after which consulting engineers retained by the Water Commission will be heard.

Green said that while the program for the May 22 hearing has not been completed, it is planned to hear anyone with a specific recommendation who is not heard at the meeting Tuesday.

Public Hearing on Water Draws Scant Crowd



Fewer than 25 spectators appeared today to hear City Council's Public Works Committee discuss improvement of the water supply. Two policemen were on hand to control the crowds anticipated in the gallery (top). At extreme left is Mayor Samuel and at extreme right is Director of Public Works Martin J. McLaughlin

With less than 25 spectators present, City Council's Committee on Public Works today began public hearings of plans for improving Philadelphia's water supply.

Regardless of what new source of supply is agreed upon, Philadelphia is going to continue to get "dirty water" until the distribution system is improved, the committee was told by Elbert J. Taylor, chief of the Bureau of Water. He said much of the 2,400 miles of water mains here are corroded and that water from them is going to continue dirty until the mains are replaced.

Today's hearing, and one sched-

uled for May 22, were called solely for a discussion of plans now being considered by Council. Another hearing, the date for which has not yet been set, will be held to give opponents of the plans a chance to voice their criticism.

A small attendance had been expected at today's opening session—but not as small as the audience which showed up. Two policemen assigned to handle visitors to the gallery in Council's City Hall chambers, stood by idly when not a person appeared there.

A majority of today's spectators came from areas in Montgomery and Bucks Counties which would

be inundated if the Wallpack Bend project to bring water here from the upper Delaware River is the one chosen.

Chief witness today was Herbert W. Goodall, chairman of the Mayor's Water Commission, who gave a brief report of the findings of a board of engineers appointed by the commission to study the best methods of bringing water here.

500,000,000-Gallon Goal

Goodall said that the engineers were instructed to develop plans which would eventually supply 500,000,000 gallons a day to Philadelphia—the total which would be re-

quired here in the year 2000. At present the city's water needs run between 330,000,000 and 350,000,000 gallons daily.

The engineers, he said, recommended two plans, the first one being the Wallpack Bend project which would cost \$284,588,000. The second plan called for a project to improve and augment the city's present system at a cost of \$62,586,000.

The estimated cost of the Wallpack Bend project does not provide for replacement of corroded mains as does the rehabilitation estimate.

The Wallpack Bend project, (Continued on Page Two, Column Right)

Water Hearings

(Continued from the First Page)

pack Bend project does not provide for replacement of corroded mains as does the rehabilitation estimate.

The Wallpack Bend project, Goodall said, would increase the water rents of the average householder about 102 per cent, or from about \$8 to \$16 a year. The second plan would entail an increase of 13 cents in the water rents.

Recalls Delay on Vote

Goodall pointed out that the two plans were to have been placed before the city's voters at next Tuesday's primaries, but that Council postponed the referendum so that public hearings on the question could be held.

Councilman Clarence K. Crossan said that since authorities agreed that it will take at least five years to complete an upland source of supply, City Council should, in the meantime, provide some way of eliminating bad tasting water.

In this connection, he suggested serious attention be given his proposal to abandon the Torresdale intake from the Delaware River for a new one to be constructed at Yardley. At the Torresdale station, he pointed out, water is taken at tidal flow, a condition that would not be necessary at Yardley.

"Philadelphia," Crossan said, "should not have to wait for a new supply system to get better water. It is imperative, I believe, that we do something now—not five years from now—to eliminate the reputation abroad that Philadelphia's water tastes and smells."

Warning on Cost

Director of Public Works Martin J. McLaughlin told the committee that no matter which plan was adopted, "it's going to cost a lot of money."

McLaughlin also contended that water from any source—present or planned—is going to be "black as ink" after a storm and will require purification. Despite admitted inadequacies, the water now supplied Philadelphians has never failed to meet health standards, the director told the committee.

Lyle Jenne, sanitation engineer of the Bureau of Water, said Philadelphia's reputation of "drinking filtered sewage and chlorine cocktails" was false and that tests showed Philadelphia water to have less chlorine content than the "widely boasted pure water" of some Philadelphia suburbs.

Two Applaud Engineer

This remark led Councilmen George D. Mansfield and L. Wallace Egan, attending the hearing as observers, to leap to their feet and applaud.

Facing the Water Problem

Lack of Decisiveness in Reports of Commission Leaves City Where it Started in Quest of Improvement

NO PROBLEM confronting Philadelphia concerns as many persons as improvement of the water supply. This problem has been the subject of numerous investigations and reports, and it has been freshly examined by experts.

The conclusions of these experts have been presented in two long, involved and technical reports. These documents are available to only a limited number of citizens, and still fewer will have the patience to read, digest and analyze them.

As a matter of service to all water users, The Bulletin has prepared a series of articles designed to simplify the presentation of the question the City will soon have to decide—namely, whether water supply from present sources can be made satisfactory, or whether it will be necessary to seek upland (distant) sources.

These articles are brief and factual. The first of them is printed below. The second will appear tomorrow.

Pursuant to an ordinance of City Council passed last August, the Philadelphia Water Commission, appointed by Mayor Samuel in April, undertook to submit two reports: (1) a preliminary report reviewing the upland water source proposals of recent years, and recommending the project best suited to the city's future needs; and (2) a final report, containing a comprehensive study of the selected new source and recommendations on the adequacy and suitability of present sources.

It was a sort of cart-before-the-horse assignment, since the recommendations on present sources might make unnecessary any discussion of new sources; but the Commission has submitted two reports in the order, and covering the subject matter, specified by the city.

The conclusions are not as clear-cut

as many had hoped they would be. The Commission employed a Board of Consulting Engineers, which made extensive surveys, but neither the Commission nor the Board has recommended either continuing or discontinuing the present sources. As to upland sources, the engineers selected a project known as the Yardley-Wallpack Bend in the preliminary report, but in the final report they feature another, known as the Delaware River Project, which they say is the choice of the Commission.

City Council now plans a series of public hearings, beginning today. It is announced that the hearings will start "from scratch," a course from which the lack of decisiveness in the Commission's reports leaves no escape, though the views and data of engineers will doubtless play an important part in the discussion.

"This report of Jenne," Mansfield said, "should be given widest publicity, and offset the notoriety given our water supply." Egan said he had been drinking Philadelphia water for more than 50 years and never found anything wrong with it. Councilman Crossan interrupted them to say that while he would like to join in their belief it had been his personal observation that they were wrong.

"All you have to do to realize Philadelphia's drinking water isn't what it ought to be," Crossan said, "is to go out to Fairmount Park and see the long lines of people waiting at the springs to fill bottles for drinking and cooking water that does not taste or smell."

Water and Butter

YESTERDAY Council opened up to public discussion the future of the City's water supply.

The subject is one on which a majority of citizens hold strong views. Complaints about the water are constant and voluminous. Effort is sometimes made to inject its taste and odor into politics. An expenditure of many millions on water improvement is in prospect. The decision reached may boost water bills anywhere from 13 to over 100 per cent.

Ventilation of this important question brought to the public hearing about 25 persons—less than one per cent of as many as stand in line for hours to buy butter. It is reported that a majority of them came from adjoining counties whose interests would be affected by one or more of the plans under consideration.

It cannot be inferred from this apparent lack of interest that the people no longer care about the unpalatability of their water supply or what they would have to pay for improvement. They probably have no settled convictions as to the steps to be taken, and feel they have nothing definite to contribute to the discussions.

What they need is a clarification of the issues involved. They may find some help in the easy-to-read informative articles The Bulletin is printing daily elsewhere on this page.

Facing the Water Problem

**Real Question is Whether Plan Followed Since 1899
Shall be Scrapped for a New One**

A CLEARER understanding of Philadelphia's water problem than can be gained from long technical reports may help in the finding of a sound solution.

In a series of brief articles, the first of which was printed yesterday, The Bulletin is endeavoring to print the essential facts.

These articles, taken together, will boil down and analyze the conclusions of the experts. The second of them follows. The third will appear tomorrow.

II

The statement is often heard that Philadelphia lacks a plan for water supply, and that the purpose of the Water Commission which recently made its report was to suggest a plan.

It becomes clear from reading the Commission's reports that its efforts were not directed toward rescuing the city from planlessness. The present system, says the final report, "is in general conformity with a comprehensive program adopted in 1899, which included retention of the existing sources of water supply obtained from the Delaware and Schuylkill Rivers," with treatment of the water by filtration, rather than the development of a "mountain supply" such as was even then being advocated.

The question now, therefore, is not

so much whether there is to be a plan as whether there is to be a departure from a program long followed, though the present need for rehabilitation of the water works bears witness that the program agreed upon in 1899 has at times been badly neglected.

Whether the city should now change its program is a question that calls for prompt decision.

The consulting engineers show that large expenditures, in addition to the unexpended balance of the recent \$18,000,000 loan, are necessary for the present plant within the city, regardless of where the future water comes from. Such expenditures can obviously be made with less chance of later proving to have been costly blunders if there is assurance that they will fit into the ultimate design.

Facing the Water Problem

Quality of Delivered Water, Rather than Raw Supply, Not Stressed in Engineers' Report

(This is the third of a series of short articles based on the reports of the Philadelphia Water Commission. They are being presented for the purpose of clarifying the issues involved in the search for the best means of improving the City's water supply. The fourth article will be published tomorrow.)

III

THE reports of the Water Commission's Board of Consulting Engineers are mostly about raw water—water before treatment. The Commission sought new sources whose quality, in the raw, would be better than the raw water now used by the city. And in discussing the present sources the engineers seemed primarily concerned with the quality of raw water, now and after pollution has been reduced.

This puts the present water supply in a less favorable light than it seems to deserve, because the raw water now used is without doubt badly polluted. A more balanced discussion, dealing with the product delivered or deliverable to consumers, after purification, would have made out a better case for the present sources.

Yet it would be incorrect to say that

the engineers expressed themselves as either hopeless about the present sources, or hostile to the city's operation of the purification facilities. Despite all the unpleasant things said about the present sources in the raw, the engineers do not recommend that they be abandoned.

If the engineers had had more to say about the delivered product, their verdict on safety, as measured by the accepted standard of typhoid danger, could not have failed to be favorable. Though the raw water is shown to be bad, the treated water falls far inside the standards set by the U. S. Public Health Service.

The city's typhoid death rate per 100,000 inhabitants has recently been less than 0.5. Before the city filtered its water it was 75 and higher. In 1944 and 1945 there were no typhoid deaths attributable to the water.

Facing the Water Problem

Quality of Delivered Water, Rather than Raw Supply, Not Stressed in Engineers' Report

(The Bulletin resumes today its presentation of a series of articles intended to give readers in brief and simplified form a clearer understanding of the voluminous technical reports compiled for the Philadelphia Water Commission. The first three of these articles appeared May 14, 15 and 16. Because of their importance to every resident of Philadelphia the series was suspended during the period of curtailed Bulletin circulation. The fourth article follows; the fifth will appear tomorrow.)

IV

IN their discussion of the raw water delivered to the city's purifying plants, the Water Commission's Board of Consulting Engineers say that both rivers "are now polluted to an extent greatly exceeding the maximum recommended [by the U. S. Public Health Service] for raw water to be purified by rapid sand filtration."

These words seem to have been more widely quoted than understood. Their meaning is lost if the reference to "rapid sand filtration" is not given due emphasis, for Philadelphia does not at any point rely solely on rapid sand filtration for purification. Almost all the water passes through slow sand filters or is double filtered. Rapid sand filtration is the only filtration for some of the Belmont Water, but it is supplemented by chemical treatment.

concerned with sources, they may not have felt called upon to discuss at length the suitability of the water after treatment, either now, or after anti-pollution measures have become effective, or after the installation of better methods of treatment.

A very important anti-pollution measure, of course, is the city's own sewage disposal program.

But while one searches in vain for a direct statement from the engineers that the water from present sources is suitable or can be made so, this seems to be necessarily implied. Presumably the engineers would not have gone to the trouble to work up estimates of the cost of making the "present system suitable for continued use," as they did, had they not thought that a suitable supply could be provided. If this is what they thought, it is unfortunate they did not say so more emphatically.

Since the engineers were primarily

Facing the Water Problem

Tastes and Odors can be Removed Much More Cheaply Than a New Source can be Provided

(This is the fifth of a series of articles based on the Philadelphia Water Commission's reports. The sixth will appear tomorrow).

V

Though Philadelphia water easily meets the standard tests for safety, it is at times objectionable for tastes and odors. These come mostly from chlorine in combination with foreign matter, chiefly phenol wastes.

With less pollution and less chlorine, the tastes and odors would be reduced. The Water Commission's engineers say, however, that after all the anti-pollution measures have been put into effect "it is improbable that all the causes of these tastes and odors can be removed."

Does a statement that causes of the tastes and odors cannot be removed mean that the tastes and odors themselves cannot be removed? The engineers have not yet cleared up this point in the councilmanic hearings, though there has been other testimony that the tastes and odors would yield

to treatment. The reports of the consulting engineers have been primarily concerned with raw water, to the neglect of the possibilities of treatment.

The Water Bureau, in its 1943 report, discusses experiments with a process known as "ozonation," in which practically complete success is said to have been achieved in removing objectionable tastes and odors. There the matter dropped, possibly because several million dollars would be necessary to install the process on a city-wide basis.

Philadelphia always seems more willing to discuss spending \$300,000,000 for upland sources than \$3,000,000 for water treatment that would make the upland sources unnecessary.

It might be added that the consulting engineers considered some treatment, including chlorination, necessary for all the upland sources studied.

Facing the Water Problem

Proper Treatment of Schuylkill Supply Twice as Costly as Purifying Delaware Water

[This is the sixth of a series of articles analyzing the reports of the Philadelphia Water Commission. The seventh will be printed tomorrow.]

OF Philadelphia's two present sources of water supply, the Delaware and Schuylkill, the Schuylkill is by far the less satisfactory. It is more seriously polluted, has more taste-producing matter, is far more turbid, and is more than twice as hard. It has a high manganese content, which imparts a brownish cast to the water and accounts for heavy deposits in pipes.

River cleansing measures might be expected to remove some of the undesirable properties of the Schuylkill raw water, but would not remove the hardness or manganese content. Treatment might remove all the undesirable properties from the delivered product, but the cost of treatment would at best remain comparatively high.

According to the Bureau of Water, present unit costs for treatment are

twice as high for Schuylkill as for Delaware water.

The Water Commission's Board of Consulting Engineers has discussed the possibility of abandoning the Schuylkill without going to upland sources, and has computed the cost of taking all the city's water from the Delaware at Torresdale and pumping some of it across the city to the Belmont and Queen Lane filters for purification.

The cost of needed internal improvements to the system, if the city does not go to an upland source, is put at \$62,568,000 including the unexpended portion of the current \$18,000,000 water loan. Taking all the water from the Delaware at Torresdale would add another \$25,000,000 of capital cost.

The fact that the Commission seriously discusses this possibility emphasizes the point that it is not recommending abandonment of the present sources for an upland source, but has simply expressed its choice of an upland source IF the present sources are abandoned.

Facing the Water Problem

Volume of Water Needed Hinges on City's Population and Possible Adoption of Conservation Measures

[This is the seventh of a series of articles briefly analyzing the reports of the Philadelphia Water Commission. No. 8 will appear tomorrow.]

VII

HOW much water is Philadelphia going to need? Its recent consumption has averaged about 325 million gallons a day (325 mgd).

Though all the large water consumers are metered, about half the services are not metered. All authorities agree that consumption could be reduced with universal metering and with changes in the rate structure that would give greater incentive to conservation.

The Water Commission's Board of Consulting Engineers has estimated that the city would need a source of supply capable of delivering 500 mgd in the year 2000 for a population of 2,400,000. A great deal depends upon

how realistic this estimate is.

Even with the present high per capita consumption, 500 mgd would supply a population of over 3,000,000. Yet the 1940 census showed a loss of population, and further losses will not be surprising.

If it seems certain that a 500 mgd capacity will be needed 50 or more years from now, it will be wise in any future waterworks development to build toward that capacity. But if the 500 mgd need is not considered likely, it would be just as wise not to build toward it.

There may be a third course—to avoid for the present the more costly commitments to a 500 mgd plant, and to stay with those sources of water supply which are close at hand and can be readily expanded to provide the 500 mgd if the need for it should eventuate. Perhaps it is not imperative to decide right now that the need in 2000 A. D. either will be or will not be 500 mgd.

Facing the Water Problem

City's Daily Water Requirements Determining Factor in Cost of Improving the Supply

[This is the eighth of a series of articles on improvement of Philadelphia's water. The ninth will be published tomorrow.]

VIII

THE assumed need of a source of water supply capable of yielding 500 million gallons a day (500 mgd) in the year 2000, as compared with a present average consumption of about 325 mgd, accounts very largely for the higher costs estimated by the Water Commission's Board of Consulting Engineers.

Even the \$62,456,000 of added cost considered necessary by the engineers if the present sources are continued includes \$15,010,000 for expansion to the 500 mgd capacity. So does the \$87,500,000 estimated as the cost of abandoning the Schuylkill and taking all the water from the Delaware at Torresdale.

The engineers favored (if the pres-

ent sources were abandoned) a Delaware dam at Wallpack Bend, from which the water would flow to Yardley through the natural bed of the river. But the need for this dam might disappear completely under this plan if the future need for water were substantially less than 500 mgd. The only purpose of the dam would be to store water so that the flow could be increased during drought, when the natural flow would not yield the quantity the city would want from the Delaware.

The Water Commission itself favored conveying the water from the Wallpack dam by tunnel. The tunnel necessitates a dam, but the tunnel could be smaller if built for less than 500 mgd.

All along the line the higher mgd is reflected in higher costs. It obviously becomes very important, before commitment to the higher costs, to be reasonably certain that the 500 mgd capacity, if bought, will be used,

Facing the Water Problem

Five Dams and High Land Damage Costs Involved in Delaware River-Yardley Supply Project

[This is the ninth of a series of condensed discussions of the Philadelphia Water Commission's Reports. The tenth will be published on Monday.]

ONE of the upland source proposals considered by the Water Commission's Board of Consulting Engineers is called the "Delaware River Yardley Project." It would involve moving the Delaware intake from Torresdale to Yardley, six miles above Trenton. Under this plan 334 million gallons a day (334 mgd) would be taken from the Delaware. The Schuylkill source would be abandoned and further needs would be met from four storage reservoirs on the Perkiomen Creek watershed and one on Tohickon Creek.

This project avoids the hardness and other undesirable qualities of Schuylkill raw water, and removes the Delaware intake to a point where pollution is much less than at Torresdale. The engineers say the existing filters,

after improvement, would adequately purify the water, but the cost of the project is high.

The sources are comparatively close to Philadelphia, but probably for that very reason the land damages would be high, and the cost is further increased by the fact that there would be five dams to build.

The 334 mgd to be taken from the Delaware might be enough for the city's present needs if conservation were practiced through universal metering and otherwise. It is therefore the assumption that 500 mgd will be needed that makes the cost of the Delaware River Yardley plan even higher than building a dam at Wallpack Bend, from which the water would come to Yardley in the river bed.

This emphasizes again how vital a part of the whole problem is the prediction that 500 mgd capacity will some day be necessary. With a lower need, fewer dams on Schuylkill tributaries, or perhaps none at all, would be necessary.

Facing the Water Problem

Upper Delaware Project Most Expensive and Treatment of Water Would Still be Required

(The eleventh article of this series of discussions of water supply, based on official reports, will appear tomorrow.)

X

A PLAN called by the Water Commission's Board of Consulting Engineers the "Upper Delaware River Basin Tributaries Project," calls for the construction of reservoirs on six tributaries of the Delaware draining the Pocono region (Lackawaxen River and the Shohola, Bushkill, Broadheads, McMichaels and Buckwha Creeks).

There would also be required a regulating reservoir on Unami Creek, in the western part of Bucks County; pressure tunnels for collecting the water from the various storage reservoirs and for delivery from Unami Reservoir to Roxborough; and conduits from there to other filter plants of the city.

Since this project goes farther up-

land than any other, the requirements for treatment of the water are of special interest. The waters, say the engineers, "are low in alkalinity, necessitating careful adjustment of coagulant dosages and perhaps the occasional addition of alkalinity." "Color removal does not appear difficult." "A desirable quality of finished water can be produced . . . by standard purification processes involving filtration and supplemental treatment to prevent corrosion in the distribution system." "The water is somewhat polluted and at times highly colored, so that filtration would ever be essential to provide a safe and satisfactory supply."

An advantage of this plan is delivery of the water to the city by gravity, but several other plans also have that advantage. The estimates of cost make this the most expensive of all the upland projects—\$380,250,000, not including the cost of improvements considered necessary for the existing plant within the city.

Facing the Water Problem

Upper Lehigh Source Would Fail to Yield Volume Required and Cost Would be High

[In today's article on the Philadelphia Water Commission's reports the Upper Lehigh projects are discussed. Tomorrow the Lehigh Coal & Navigation Company's proposal will be outlined.]

XI

The Upper Lehigh River Basin project is another of the plans for an upland source studied by the Water Commission's Board of Consulting Engineers. This is a proposal to take water from four reservoirs on tributaries of the Lehigh River above Lehigh Gap. From there the water would be taken by tunnel to a dam on Unami Creek, Bucks County, and distributed as in the Upper Darby Delaware River Basin Tributaries Project.

The consulting engineers ruled out this project because they thought it would yield only 331 million gallons a day, as against the 500 mgd they believed would ultimately be necessary. But before dismissing this watershed

from consideration they studied several ways of supplementing its yield.

One was the Lehigh-Pocono Project which added four of the reservoirs of the Upper Delaware Tributaries project. This gave the 500 mgd desired, but brought the estimated cost up to \$376,720,000, stepping on the heels of the \$380,250,000 estimate for the Upper Delaware Tributaries project, the most costly of all.

In the final report of the consulting engineers there appears a solitary reference to a "Lehigh-Perkiomen Project," which is nowhere else described, but which, it may be reasonably surmised, is another effort to supplement the Upper Lehigh project with water from the Perkiomen watershed to make up the desired 500 mgd. The only information in the Water Commission's reports about this project is that its cost is tentatively estimated at \$335,803,000, which would make it the third most costly plan considered.

Facing the Water Problem

Lehigh Coal & Navigation Project Held Inadequate for Future Need

[Twelfth article of a series]

THE conclusion of the Water Commission's Board of Consulting Engineers that the Upper Lehigh River watershed would not yield enough water for Philadelphia's needs unless supplemented has been challenged by Lehigh Coal and Navigation Co., which owns land the city would acquire if it went to the Upper Lehigh watershed for water.

The Company's original proposal called for three reservoirs (on Lehigh River, Bear Creek, and Mud Run). When the city's engineers objected that the water yield would be inadequate, the Company, while not conceding that the city's future needs would rise as high as 500 million gallons a day, added two reservoirs to its plan (on Pohopoco and McMichaels Creeks), which they said would bring

the yield up to 510 mgd. But the city's consulting engineers still denied that 500 mgd would be available.

The quantity of water Philadelphia could take from these sources, after stream flows are maintained in their legally required volumes, after other communities have taken what they are entitled to, and after allowance is made for possible years of drought and for normal evaporation, is a complicated problem on which the general public is helpless without the guidance of experts. When the engineers disagree the issue is especially perplexing.

Even though there were agreement on how much water the city will need and can get, there would be other points on which the engineers of the city and company are in sharp disagreement. They will be discussed tomorrow.

Facing the Water Problem

Conflict of Estimates on Cost of Lehigh Coal and Navigation Project

[Treatment of water from the Upper Lehigh River basin will be discussed in tomorrow's article.]

XIII

IN the tentative estimates of the Water Commission's Board of Consulting Engineers, the cheapest Upper Lehigh River project that would yield 500 million gallons a day (Lehigh-Perkiomen) would cost \$335,803,000; the most expensive (Lehigh-Pocono), \$376,720,000. The Lehigh Coal and Navigation Company, owner of land the city would acquire if it used the Upper Lehigh sources, contends that enough of this water can be brought to Philadelphia for \$142,122,000.

The city's engineers have estimated on deep pressure tunnels and insist that they are necessary. The company's engineers have estimated on tunnels laid near the surface.

The city's engineers contend that the unit costs used in the company's

estimates are low, and that even if the company's design were used "the cost of construction would greatly exceed \$142,122,000."

Probably the most important point on which the two groups of engineers disagree is whether the water would need filtration. The city's engineers say the water is "unsuitable for use without filtration." The company's engineers say that filtration would not be necessary. If they are right, there would be substantial savings in waterworks operating costs, as distinguished from the cost of facilities for bringing the water to the city. The company contends that a gravity flow from the upland source to the city, with no filtration in the city, is worth \$1,500,000 a year in current operating costs.

Somebody must decide between these conflicting views—assuming, that is, that the city decides to abandon its present sources of water supply.

Facing the Water Problem

Some Treatment Necessary for Any Water Obtained from a Surface Source, Even far Away

[The Wallpack Bend project will be discussed tomorrow.]

XIV

ALTHOUGH the Water Commission's Board of Consulting Engineers and the consulting engineers of the Lehigh Coal and Navigation Co. disagree on the need for filtering water from the Upper Lehigh River basin, there is agreement that some treatment would be necessary.

The raw water of that area is very soft and low in alkalinity, and, contrary to widespread impression, there is a point beyond which softness ceases to be a virtue. The city's engineers say: "Added alkalinity with moderate doses of coagulant is definitely required. . . . Treatment to prevent corrosion in the distribution system may at times be advisable." The company's engineers say: "There will have to be constructed a plant along the pipe line . . . where the

proper chemicals can be added when necessary . . . as these soft waters sometimes are very active in pipe corrosion."

Both groups of engineers think the color of the water must be reckoned with, though the company's engineers think the difficulty is not formidable.

The company's engineers say: "Of course, any water used from a surface source should be chlorinated to insure disinfection." If any Philadelphians have had hopes of a raw water with absolutely unsullied past, requiring no medication or doctoring, it seems time to relinquish them.

The layman cannot resolve the points on which the engineers disagree. The company, of course, is frankly desirous of selling land. Nor will it have any responsibility if events fail to conform to its prospectus. The Water Commission's consulting engineers may have a greater incentive to play safe.

Facing the Water Problem

Yardley-Wallpack Bend Project, Cheapest of Upland Sources Considered, Would Use Open Channel

XV

THE Water Commission's Board of Consulting Engineers recommended the "Yardley-Wallpack Bend Project" as the most economical and suitable source of upland water for Philadelphia's future needs. That is, they thought it the most suitable *upland* source, if present sources were abandoned. As between this upland source and existing sources they made no recommendations.

Under this project there would be a dam at Wallpack Bend, on the Delaware above the Water Gap (from which the water would flow to Yardley through the open channel of the river); intake works at Yardley; a regulating reservoir at Warrington; and conduits for delivery from Warrington to filter plants. The Schuylkill drops out of the picture as a source.

The purpose of the dam would be to store water, so that it could be

released at times when the flow would otherwise be insufficient, and the need for the dam depends largely on how much water the city will want to take from the Delaware. Enough for the average present need could be taken from the Delaware at Yardley without a dam.

In the engineers' judgment the water would have to be filtered. It would need no special treatment for hardness or color.

The fact that the Yardley-Wallpack Bend Project calls for only one dam, though a large one, and the use of the bed of the Delaware as a conduit, makes it the least expensive of all the upland projects considered. Latest estimates put its cost at \$137,456,500, exclusive of internal improvements necessary independently of the new source.

[Discussion of Delaware River Project in Article XVI on Monday.]

Facing the Water Problem

Tunnel from Wallpack Bend Dam to New Warrington Reservoir Would Cost City \$284,588,000

XVI

AFTER the Water Commission's Board of Consulting Engineers had declared in its preliminary report that the Yardley Wallpack Bend project was the most economical and suitable source of upland water for Philadelphia, it was surprising to read in the final report that another project had been "selected for development" by the Commission itself.

The project thus chosen by the Commission for "development" by the engineers was called the Delaware River Project in the preliminary report. The selection seems to mean that the Commission thought the Delaware River Project was the best of the upland source proposals, but there is nothing to indicate that the Commission recommends even its favorite upland project in preference to continuing with existing sources.

The Delaware River Project differs from the one favored by the engi-

neers in an important particular. The water would reach the regulating reservoir at Warrington by gravity through pressure tunnel from the Wallpack Bend dam, instead of going to Yardley through the open channel of the Delaware, to be pumped from there to Warrington.

The tunnel, of course, would add great expense to the project, more than doubling its estimated cost. The estimated cost of Wallpack Bend-river bed method is \$137,456,500; that of the Wallpack Bend-tunnel method is \$284,588,000. Both figures include the cost of facilities for bringing the water to the city, connections with the existing system, and treatment facilities made necessary by the new sources. They do not include internal improvements necessary independently of the source of water.

[Tomorrow's article analyzes a \$157,000,000 B. coli item.]

Facing the Water Problem

Engineers Figure Difference in B Coli Count Between Yardley and Wallpack Bend not Worth \$157,000,000

XVII

THE water Commission's Board of Consulting Engineers reported that if the city abandoned its present sources of water supply, the project they favored was a dam at Wallpack Bend, above the Water Gap, with the water flowing from there through the open channel of the river to an intake at Yardley.

The Commission itself, apparently overruling the engineers, favored bringing the water from the dam by tunnel. This involved capital outlays about \$157,000,000 higher than the plan favored by the engineers. What improvement in the raw water would the city get for the \$157,000,000?

The most important difference in the raw water would be a lower B coli count. The B coli count, index of typhoid danger, is shown to average 1,920 per 100 milliliters near Wallpack Bend, and 4,570 at Yardley.

From August to November, 1945, the B coli count is shown to have averaged about 13,000 at Torresdale. If the city can deliver a typhoid-free water from Torresdale it could even more easily deliver it from a Yardley intake.

Much has been made of the fact that the B coli count at Torresdale exceeds the U. S. Public Health Service standards for rapid sand filtration. At Yardley the count is under the standard, and most of the industrial pollution is absent also.

Since the raw water is not absolutely clean even at Wallpack Bend, it is a fair question whether the difference between Yardley and Wallpack Bend intakes is worth \$157,000,000. The Water Commission's consulting engineers thought it wasn't.

[Tomorrow's article will deal with the confused picture of various project costs.]

Facing the Water Problem

Cost of Adjusting Distribution System Varies with Each Suggested Source of Supply

IT has not been easy for readers of the Philadelphia Water Commission's reports to avoid confusion on the costs of the various alternatives discussed. This is largely because so many distinctions must be made between the cost of bringing the raw water to the city, the internal adjustments that are necessary to accommodate the waterworks to each new source, and the improvements that have to be made regardless of the source, but which might be made one way for one source, another way for another.

The engineers have estimated that if this city continues to use the present Schuylkill and Delaware sources, capital expenditures of \$62,568,000 will be necessary, but about \$15,000,000 of this is to bring the supply up to the 500 million gallons a day estimated to be necessary in the year 2,000. This \$15,000,000 might not have to be spent for some years, and might never have to be spent.

If the city abandoned its Schuylkill source and took all its water from Torresdale, an additional \$25,000,000 of capital cost is estimated.

Of the two Wallpack Bend dam projects, the one which would bring the water to Yardley in the bed of the Delaware would run to \$126,882,500 just to bring the water to the city. By the time necessary internal changes and improvements were made, the estimated cost would be \$185,014,000.

The cost of bringing Wallpack Bend water to the city by tunnel is estimated at \$243,151,000. By the time necessary internal changes and adjustments were made, the cost would be \$315,791,000.

[Tomorrow's article will discuss the annual upkeep costs for the various projects.]

Facing the Water Problem

Annual Operating Costs are Important Factor
• and Vary for Each of Suggested Sources

XIX

THE capital costs estimated for continuing to use the present water sources and for the two Wallpack Bend reservoir projects mean little unless translated into annual costs, and this, too, is a rather complicated task, since each source would have its own set of operating conditions.

Thus a higher capital cost of bringing water to the city by one plan may be partially offset by the fact that the water would be delivered to the city by gravity, without pumping, or would require less expensive treatment after it arrived.

The Water Commission's engineers have undertaken to give annual costs, combining the cost of carrying existing and new water debt and the costs of operation, for several of the alternatives discussed.

If the city continues to use its

present sources, but makes the \$62,568,000 worth of improvements deemed necessary, the annual cost will increase from the present figure of \$6,293,930 to \$8,221,675.

If the Schuylkill were abandoned and all the water taken through the present Delaware intake at Torresdale, the added \$25,000,000 of capital outlay would bring the annual cost to \$9,007,925.

The Yardley Wallpack dam project would make the annual cost \$12,139,875.

And the Wallpack dam project, which calls for a tunnel from the dam to Warrington, would increase the annual costs to \$14,735,475, more than double the present cost.

[Tomorrow's article deals with methods of meeting the costs of improved water supply.]

Facing the Water Problem

Increase in Water Rates Necessary if Additional Borrowing Runs to \$25,000,000 or More

XX

SINCE there is no prospect of general city borrowing power sufficient to finance any of the proposals discussed in the Water Commission's reports, it may be assumed that a special borrowing power, supported by waterworks income, would have to be used.

The constitutional standard for such debt requires that the income be sufficient to carry the debt and pay the operating expenses. For this purpose, depreciation is not an expense.

Water revenues are now about \$1,000,000 in excess of debt charges and operating costs, and perhaps \$25,000,000 of new debt (in addition to the unexpended part of the current \$18,000,000 water loan) could be incurred without any change of water rents. After that, increased annual costs would have to be reflected in higher water income.

The Water Commission's engineers estimate that income would have to be increased 13 per cent if the city

made the improvements considered necessary to continue with the present sources. For the Yardley-Wallpack dam plan, the increase would be 66 per cent; for the Wallpack Dam-tunnel plan, 102 per cent.

It is generally assumed that each consumer's water bill would be increased by a fixed percentage, but it might not be done that way. The only legal requirement is that the total water income be increased, and this might be accomplished, as with sewer rents, by grading, with small consumers assessed proportionately higher than large.

Under the present sewer rent ordinance, sewer rents would rise with water rents, but the ordinance could be changed. Sewer rents at lower percentages of water bills, but yielding the same amount of sewer income as at present, would be legally possible.

[Tomorrow's article will deal with erroneous engineering predictions of the rate of increase of water consumption in Philadelphia.]

Facing the Water Problem

Greater Costs of Improvement Due Chiefly to Increase in Quality Supplied

XXI

As citizens ponder the increased costs of the several proposals of the Water Commission, it may be worth while to reflect on the fact that to a very great extent the higher costs follow not so much from improvement in the water as from increase in the quantity of the water. It is the assumed need for 500 million gallons a day in the year 2,000, an increase of over 50 per cent, that balloons many of the estimates to a point far in excess of what they would need to be if a better quality of raw water were the only objective.

Planning is always desirable, and efforts to foresee the future city population cannot be discounted as useless. Yet there may be a limit to the extent to which the public should act on the predictions. What likelihood is there that the consulting engineers have correctly estimated the city's population and water needs 54 years from now?

Past commissions and engineers

have gone wild on predictions. A commission in 1899 foresaw a population of 3,000,000 in 1950. One in 1920 predicted 3,250,000 by 1970. One in 1937 predicted 3,100,000 by 1980. The Knowles report in 1940 estimated 2,500,000 in 1965. The latest estimate is 2,400,000 in 2000.

But the census counts from 1890 to 1930 showed a slowing rate of growth, and the 1940 census actually revealed a loss of 19,000, bringing the official figure down to 1,931,334. All over the country the trend is toward lower rather than higher populations in the cores of metropolitan areas.

The Water Commission's picture of the situation 54 years hence is something to be kept in mind as one of the possibilities. It may not be something on which the city should right now gamble tens of millions of dollars.

[On Monday the concluding article of this series, which has reduced to simple terms the technical report of the Philadelphia Water Commission's reports, will appear on this page].

Facing the Water Problem

Real Question is How Much We Shall Pay for Satisfactory Supply, Regardless of Source

(This is the concluding article of a series designed to clarify the clouded issues involved in improvement of our water supply.)

BEFORE City Hall gave up the idea of a water referendum at the spring primary, the question to be put to the voters might have been paraphrased as follows: "Shall the city pay \$62,500,000 for a satisfactory water supply, or shall it pay \$285,000,000 (it should have been \$315,000,000) for the same thing?" The difference between continuing to use the present sources, with a decently improved plant, and going to the upland source favored by the Water Commission may boil down to pretty much that.

The upland source would give better raw water, but raw water is not what Philadelphia uses. It uses treated water, and will use treated water

no matter what the source.

The doctoring now produces a safe water. It doesn't remove Schuylkill hardness or manganese and sometimes it leaves unpleasant tastes and odors. The reports of the Water Commission have not even discussed the possibilities of better treatment of water from existing sources.

One of the courses clearly open is to mark time; to wait to see what purification programs will accomplish; to experiment with improved treatment processes; to enforce conservation measures; and, very important, to let the future reveal more clearly the population trend. Any one of the alternatives proposed will cost millions less if the engineers are mistaken in assuming that the water need, now averaging 325 million gallons a day, is going to rise to 500 mgd in the year 2000 for a population of 2,400,000.

WATER HEARINGS OPENED BY CITY; ONLY FEW ATTEND

No More Than 40 Present
—and They Aren't
the 'Public'

City Council opened its well-advertised public hearings on the Philadelphia water problem yesterday—and played to a practically empty house.

For all the criticism of the "Schuylkill cocktail" and all the discussions pro and con of a new source of supply, hardly anybody seemed interested.

Galleries Deserted

The galleries were deserted. The only spectators were a few men and women, numbering less than 40 at the peak and most of the time no more than two dozen, who sat in folding chairs at the back of the Council chamber.

And they weren't what you'd call "the general public." In the main, they were residents of Bucks and Montgomery counties who would have to move out to make way for the proposed Warrington reservoir. Among them, too, were representatives of various civic and business organizations like the Bureau of Municipal Research, the Pennsylvania Economy League, the Committee of 70, and the Chamber of Commerce and Board of Trade.

Only Cynical Not Surprised

The small turnout surprised all but the most cynical, but the first hearing otherwise lived up to expectations.

Spokesmen for the Water Bureau stoutly defended the city's present drinking water. Lysle L. Jenne, the Bureau's sanitary engineer, cited figures to show that "average" pollution and chemical content of the raw water supply is within the U. S. Public Health Service tolerances. And he insisted that the water doesn't really taste or smell so awfully bad.

That inspired Councilman George D. Mansfield to blame the press—especially The Record—for the "notoriety" Philadelphia water has acquired.

"I seem to be unique," chimed

Apathy of Citizens Revealed As Water Hearings Open

(Continued From First Page)

in Councilman L. Wallace Egan, "because I have never found anything wrong with this water, although I have lived here for 51 years."

This symposium of eulogy was rudely interrupted by Councilman Clarence K. Crossan.

"I hesitate to believe," he said, "that my colleagues are really convinced that Philadelphia water does not have a taste—an unpleasant taste—and a highly developed odor. I'd like to believe that is not true, but my own observations, drinking it in my own home, prove that it is.

Long Lines at the Springs

"We see long lines of people in Fairmount Park—and these lines are growing all the time—seeking water from the springs there that has no taste . . . I think it is our present obligation to get a quality of water that is above criticism."

That reminded octogenarian Councilman Henry J. Trainer of the time he went to the St. Louis World's Fair in 1904 and the wonderful things they were doing with "liquid mud" from the Mississippi River then.

"How About St. Louis Method?"

"We went out to the waterworks," he said, "and saw this muck going through the treatment processes, and then we saw the water that was put on our tables at the hotel that night, and you couldn't beat it.

"They always said that if Mayor Weaver had seen the Weir system that St. Louis used we would never have used filters in Philadelphia. I wonder if we couldn't try the St. Louis method here."

Francis S. Friel, secretary of the board of consulting engineers of the Mayor's Water Commission, said St. Louis doesn't take its water from the Mississippi any more. It changed over to the Missouri in 1920 and is using filters now anyway. Besides, the raw water isn't anything like as bad as the stuff that comes out of the heavily polluted Schuylkill and Lower Delaware.

Temporary Improvement?

Crossan, apparently taking it for granted that the Water Commission's plan to tap the Upper Delaware at Wallpack Bend will be adopted, asked if it wouldn't be possible to effect some temporary improvement in the present supply as a stopgap. He pointed out that it would take at least five years to complete a new water supply project.

He suggested moving the intake on the Delaware River from Torresdale—where it is contaminated by Philadelphia sewage washed upstream from the Wheat sheaf Lane treatment

works—to Yardley, which is above the tidal flow.

Not Practicable

Friel and Joel D. Justin, another of the Water Commission's consulting engineers, said that wouldn't be practicable, for it wouldn't improve the Schuylkill water.

Friel finally agreed to make a study of the problem and have a report ready in time for the next hearing, to be held on May 22—a week from today.

Councilman Phineas T. Green, chairman of the Public Works Committee which is in charge of the hearings, asked all persons who wish to testify at the next session to send their names and addresses to William W. Felton, clerk of Council.

Referendum Called Off

Most of yesterday's session was taken up with a detailed and technical report by Friel and Justin. Herbert W. Goodall, chairman of the Water Commission, opened the discussion with a review of the Commission's studies and recalled that the original plan was to hold a referendum at next Tuesday's primary.

The voters were to have been asked to choose between the Wallpack Bend program, at a cost of \$284,588,000 (plus \$31,203,000 for stop-gap repairs to the present waterworks), and a general rehabilitation and expansion of the present supply at a cost of \$62,568,000. Council, however, called off the referendum to allow more time for study.

Water Interest

COUNCILMEN, perplexed by seeming citizen indifference to the water question, as evidenced by slim attendance at the first public hearing, may discover that interest will intensify as the alternatives become clearer.

Philadelphians would all like better water, but nobody can stir up a march on City Hall on that issue. Debate will probably begin when the public is told clearly what improvements in the water are attainable and at what prices, for all Philadelphians know also that better water cannot be had except at substantially higher cost.

No such thing as a perfect raw water is available for feeding into the distribution system. If it were, the current discussion of the possible need to renew the city mains suggests that even a perfect source of raw water would not remove all the dissatisfaction.

As the raw water approaches perfection, the costs tend to skyrocket, and, as with everything else, the public will be faced in the end with a decision how far in the direction of unattainable perfection its taste and pocketbook justify it in going.

For deciding that question intelligently the public needs to be told something it has not yet been told by the Water Commission and its engineers—how much better the water from present sources can be made.

Crossan Talks Real Sense At Public Hearing on Water

Councilman Clarence K. Crossan last week predicted any change in Philadelphia's water supply source was a long ways off. He urged prompt steps be taken at once to improve the present water.

Crossan spoke at a public hearing before council's committee on public works, the first of a scheduled series to consider several suggested methods of solving the water problem, including the Wallpack bend project, which would bring water from the upper Delaware at a source near Bushkill, Pa.

"There seems to be little likelihood," said Crossan, "that whatever upland supply is provided, if it does materialize, will be realized within less than five years. There is a common saying that

Philadelphia water tastes and smells. It is giving this city a bad reputation abroad."

Crossan questioned Martin J. McLaughlin, director of public works, and Elbert J. Taylor, chief of the water bureau, on expanding the use of ozone, a method of purification now being conducted experimentally; also the possibility of a new intake at Yardley, on the Delaware above Trenton.

The hearing was attended sparsely. Phineas T. Green, chairman of the committee, anticipating a large crowd, changed the

meeting place from a committee room to council chamber on the fourth floor at city hall.

Police were stationed at the entrance to handle crowds, which did not materialize. The public was admitted to the floor of council and only one visitor sat in the galleries.

Of less than 50 spectators, the majority were from outside the city. There were several visitors from Warrington, Pa., part of a group which has protested proposed establishment of a reservoir at Warrington in connection with the Wallpack Bend plan and which the residents claim would depreciate property in that area.

Taylor told the committee, even if a new source were established, large expenditures would still be required for the maintenance of the present water system.

Herbert W. Goodall chairman of the water commission appointed by Mayor Bernard Samuel, an-

nounced if the Wallpack Bend project were adopted, and if indispensable improvements to the present system were undertaken, the water bill of the average consumer would be doubled.

He estimated that the average homeowner would pay \$16 annually instead of \$8 as at present; that total cost of the program would exceed \$347,000,000.

What Price Water?

THE EVENING BULLETIN, Phila., Tues., May 21, 1946

THE trickiness of statistics is well illustrated by the statements being made to Philadelphians that the Delaware River Project, the Water Commission's choice of an upland water supply, which would more than double the water costs, would merely increase the average consumer's annual bill from \$8 to \$16.

Eight dollars, the minimum meter rate for the smallest ferrule connection, is the charge for a large number of the water services, but since it is about the lowest charge made, and a large number of consumers pay more, it is not exactly statistical candor to call \$8 the average.

Those metered consumers with half-inch ferrules who exceed the minimum consumption, those with larger ferrules, and practically all the unmetered consumers pay more than \$8 a year. Some big users of water for commercial purposes have water bills that exceed their real estate taxes.

Nor is the bill handed to the individual consumer (or his landlord) by the Receiver of Taxes his full share of the water costs. This consumer buys right and left from business concerns that use Philadelphia water and must load the cost of it into the price of their product or service.

Philadelphians may be willing to pay more for an upland water supply, but are entitled, before making the decision, to fair representation of the added cost.

COUNCIL TO STUDY WATER PLAN COST

Amount Needed to Build Intake at Edgeley will be Considered

A plan to study the cost of constructing an intake for a new water supply at Edgeley, 15 miles north of Bristol, was agreed upon today at a hearing on proposals for new sources for city water.

The board of consulting engineers of the Philadelphia Water Commission agreed to make the study after Councilmen Clarence K. Crossan and George D. Mansfield declared that the need is for an immediate new supply, regardless of any long-range plans.

Councilman Crossan's assertion that he would press for better water immediately, was applauded by about 50 spectators who attended the second public hearing held by Council's Committee on Public Works, in Room 400, City Hall.

Charles A. Emerson, a member of the board of engineers, said that Edgely is not entirely above the tidal influence, and at times tests there had shown an even higher bacteria content than at Torresdale, although the quality of the water there generally is more satisfactory. He estimated that enough water could be drawn from the river at Edgeley to supply the entire city.

Doesn't Want to be Stampeded

"I don't think the city should be stampeded into selecting a new wa-

(Continued on Page Three, Column Three)

City Council to Study Costs

(Continued from the First Page)

ter supply," Mansfield said. "With the State's anti-pollution campaign, and with improvements to the existing city water works, there is a possibility the city may, within a relatively short time, obtain more potable water at minimum cost."

Crossan told Francis S. Friel, also a consulting engineer, that he foresees serious legal difficulties ahead for the Commission-favored Wallpack Bend-Warrington project.

After Friel had gone into the project in detail, Crossan told him: "Well, Mr. Friel, as an engineer you have done nobly, but as a Councilman your answer does not satisfy me. I will press for better water now, knowing in the end we will have to go into the upper reaches for future generations, but I cannot contemplate for us to go on drinking treated sewage from the Delaware River below Trenton. It simply has got to stop."

Earlier he told Friel: "I do not believe any administration can continue to live under the heat of the present situation without reducing the contamination of the city's water supply. I do not favor waiting through two or three administrations until your program is completed."

Opposes Yardley Intake

At the outset of his testimony Friel told Crossan that an intake at Yardley, replacing the Torresdale intake as a temporary measure, was "out of the picture." Friel said that such an intake, suggested by Crossan last week, would take three years to build and would cost \$40,000,000.

"If at Yardley there is water free from pollution, and Philadelphia is crying aloud for pure water, isn't it possible for us to visualize an improved water supply in one and one-half to two years?" Crossan asked.

Friel reiterated that such a project would take three years. Crossan said it would prove a lack of understanding and lack of sense of responsibility for the officials of the city to proceed with a major pro-

gram "and let this situation continue for the next ten years."

Would Abandon Torresdale

Under the commission-favored Wallpack Bend plan; estimated to cost \$284,588,000, the Torresdale water works would be abandoned, Friel said. With improvements to the existing water system, the total cost of the Wallpack Bend project is estimated in excess of \$300,000,000, and would mean an increase of 102 per cent in water rents.

Gustav J. Requardt, a Water Commission engineer, reiterated criticism he had given before of a plan offered by the Lehigh Coal and Navigation Company. Crossan wanted to know if he couldn't suggest an alternate supply which would give the city good water within a year or two.

No Satisfactory Stop-Gap

Requardt said he could think of no satisfactory stop-gap plan, but said the Torresdale beds could be enlarged and that water gates could be installed which would be opened when the tide is running out and closed when it is running in and washing upstream the refuse from the city.

Albert Smith Faught, representing the Hørsham Citizens Committee, said that farmers and property owners whose farms and residents would be flooded out by the Warrington reservoir, strenuously object to losing their homes.

He said many of them would like to appear and protest personally, but that they preferred to wait until the Lehigh Coal and Navigation Co. presents its plan at a public hearing. Former Judge Charles E. Kenworthy, of counsel for the company, then requested formally that his company be given a formal hearing.

Isaac D. Levy, chairman of the board of the WCAU Broadcasting Company, said that there were many legal difficulties which must be overcome before the Wallpack Bend project could be started. He added that, personally, he believed the Lehigh water was the best available.

ENGINEER HITS YARDLEY PLAN

Councilman Clarence K. Crossan's proposal to bring water from a new intake in the Delaware river at Yardley today was condemned by Francis Friel, an engineer on Mayor Bernard Samuel's water commission.

Friel told a second hearing into Philadelphia's water supply, conducted by the committee on public works, that he was opposed strongly to the plan.

ALTERNATE PLAN

Crossan suggested the Yardley plan as an alternative to the Torresdale system, which he attacked because of the amount of sewage in the water.

Declaring the Yardley project

CONTINUED ON PAGE SIXTEEN

Yardley intake scheme hit at water hearing

CONTINUED FROM PAGE TWO

would be impractical and costly, Friel said even the Torresdale plant would be eliminated if the Wallpack Bend project—recommended by a board of engineers on the mayor's water commission—were approved.

Dr. Howard S. Anders, a physician, who has been crusading 50 years for a better water supply, said the water "is smelly and disagreeable to the taste." He urged a new upstate water supply.

SCORES ATTEND

Scores of persons attended the hearing, with representatives present from the Civic club of Philadelphia, the Chamber of Commerce and Board of Trade, the

bureau of municipal research and the Lehigh Coal and Navigation Co.

Isaac D. Levy, chairman of the board of the WCAU Broadcasting Co., recommended the city get its new source of water from the Lehigh, as suggested by the Lehigh Coal and Navigation Co. (The company's proposal was rejected as unfeasible and too costly by the board of engineers.)

Like Councilman Crossan, Levy said the Wallpack bend project would involve the city in years of litigation with residents of Warrington and Bushkill.

THURSDAY MORNING, MAY 23, 1946

Experts Voice Pessimism on Water Plans

No Improvement Near, 3 Testify

Philadelphia can look for no immediate improvement in its water supply, three members of the board of consulting engineers of the Mayor's Water Commission agreed yesterday at a public hearing called by City Council's Committee on Public Works.

Councilman Clarence K. Crossan touched off the reply when he asked if an immediate improvement in Philadelphia water could not be made by moving the intake of the Torresdale pumping station upstream to Yardley.

WOULD COST MORE

Francis S. Friel, secretary of the board of consulting engineers, declared that such a program would cost more than \$40,000,000 and would involve three to four years' work.

He advocated instead an improvement of the Torresdale filtration system to remove unpleasant taste and odor from the present water. He said the new equipment and rehabilitation at Torresdale would be required in any new water program.

STATEMENT ECHOED

Gustav J. Requardt, a hydraulic engineer and also a member of the board of consulting engineers, echoed his colleague's statement. He said that moving the intake above Trenton Falls in the Delaware would involve the Interstate Commission of the Delaware River Basin and require co-operation of the New Jersey and New York Legislatures.

POSSIBLE TO MOVE INTAKE

Charles A. Emerson, sanitary engineer with the board of consulting engineers, also cited interference with interstate regulations governing the Delaware River, but said it might be possible to move the Torresdale intake to a point above the mouth of Rancocas Creek. He said this would bring some improvement in the quality of the water.

Friel said the Commission-favored plan to draw water from the Upper Delaware in the Wallpack Bend-Warrington area, together with improvement of the Torresdale facilities, would cost upwards of \$300,000,000.

The hearing was sparsely attended with a peak of 75 spectators and 12 Councilmen in the meeting room. The number had dwindled to 25 spectators and four Councilmen when the hearing adjourned to meet again Tuesday.

Speed New Water System but Improve Old

Philadelphia cannot obtain better drinking water overnight.

That is self-evident, and testimony to this effect before the Councilmanic hearing on water supply was no surprise.

But objections to proposed water plans because they cannot be completed in a few weeks seem pretty flimsy. We have the choice of keeping our present polluted sources or taking the time required to get better ones.

The time element may prove a matter for consideration in choosing between different sources. Should one project take much longer than another to complete, all other things being equal, it would necessarily appear less desirable. But all of the plans suggested are bound to take some period of years to finish.

In the meantime, while getting a new system under way, the city should do its utmost to improve the existing supply. That is what Councilman Crossan had in mind when he proposed moving the Delaware intake from

Torresdale farther upstream to a less polluted site near Yardley. Water Commission engineers threw cold water on that stopgap by pointing out that it would require three to four years and \$40,000,000. Placing the intake closer at hand might prove practicable.

There are, in any event, a number of improvements to the present distribution and filtration system that are needed no matter where the water is taken from, and these should be started at once.

Some of these would make the water more palatable. A suggestion along these lines made by one of the consulting engineers calls for enlargement of the tidal basin at the Torresdale intake and the installation of gates at the entrance to keep out the flood tide carrying raw sewage upstream.

Improve our present system where we can—and get started on a new supply as quickly as possible: That is the most sensible water program the city can adopt.

Water Impatience

THE EVENING BULLETIN, Phila., Fri., May 24, 1946

TALK in the councilmanic chamber of the need to do something drastic, right away, about the water problem is both futile and harmful.

Many Philadelphians very often find the present water unpleasant to drink. It is a safe water, however, and it has been used for a long time without catastrophe. Granted that improvement is desirable, the need is not so urgent that the city would be justified in cutting short its deliberations on what is best to be done or in adopting a plan whose chief virtue might be that the engineering work could be quickly completed.

Three to five years seems to be the minimum time in which the simplest of the proposals discussed by the Water Commission's Consulting Engineers could be put into effect.

The city might have to wait even longer than that for the most energetic anti-pollution campaign to get in its work. For the city's own sewage disposal program, the voters have only this week authorized a loan. Considerable improvement in the treatment processes seems possible, but it can't be put into effect over night.

Demanding that water supply miracles be worked on the spot has more the aspect of playing to the constituency than of thinking the problem through to a sensible conclusion.

Delaware Can Furnish Entire City Water Supply

In its report of April, 1946, the Board of Consulting Engineers to the Philadelphia Water Commission indicated that Philadelphia's entire water supply could be obtained from the Delaware at Torresdale, where about 45 per cent of that supply is now taken. Delaware water at Torresdale is free of manganese, and is much softer than Schuylkill water.

Also, it contains less taste-producing matter, and is only about one-third as polluted. However, there is danger of insufficient water during periods of drought, if Philadelphia's requirements (now about 325 million gallons a day) should approach 500 million gallons a day.

The cost of this project is estimated at \$87,568,000, including \$62,568,000 for necessary improvements to the existing treatment and distribution facilities.

By taking water from the Delaware at Yardley, about 6 miles above Trenton, a decidedly better raw water could be obtained than can be gotten at Torresdale. Both the pollution produced between Yardley and Torresdale, and the very high pollution carried by the incoming tides, would be by-passed. Under a plan known as the Delaware River Yardley Project, water would be taken from the Delaware at Yardley and from reservoirs on the Perkiomen and Tohickon Creeks.

This project could meet a demand of upwards of 500 million gallons a day. Reliability of the supply would be insured during droughts by the storage on the creeks, and the raw water would be only half as polluted as that at Torresdale. It would be slightly harder than the Torresdale water, but it would be much softer than the Schuylkill water.

Development of this project is estimated to cost \$188,730,000. Including needed improvements to the existing distribution system and treatment plants, the total cost would be about \$240,000,000.

Under another proposal, designated the Yardley-Wallpack Bend Project, all the city's water would be taken from the Delaware at Yardley. The flow in the Delaware would be controlled, and made adequate to meet a demand of 500 million gallons a day, by the construction of a dam at Wallpack Bend (about 13 miles above the Delaware Water Gap), and the release of water at appropriate times into the river channel.

The water would be about the same quality as that furnished by the Delaware River Yardley Project. Moreover, the cost would be

considerably less, being estimated at \$126,882,500. Including necessary improvements to the present treatment and distribution facilities, the total cost would be \$185,014,000.

PHILADELPHIA DISPATCH, SUNDAY, MAY 26, 1946

COUNTY PROTESTS WATER PROJECT

Montgomery Board says Warrington Dam would Dispossess 1,000

The Montgomery County Commissioners today formally protested the proposed construction of a reservoir in Warrington Township as part of the Wallpack Bend-Warrington project as a new source for a city water supply.

While the protests were being expressed, a group of Horsham Township property owners listened attentively at the public hearing on new sources of city water, before City Council's Public Works Committee.

Warren F. Cressman, Montgomery County engineer, declared: "This project would dispossess upward of 1,000 residents and property owners, who would have to find new homes. Although the dam would be built in Warrington Township, the area affected would cover some 4,400 acres, with the reservoir virtually cutting Horsham Township in half.

Road Relocation Needed

"It would involve a relocation of part of Easton road, as well as other State highways, county and township roads. Some of the latter would be wiped out. Old landmarks would be destroyed or inundated. Several bridges would be eliminated."

Present also were Foster C. Hille-gass, president of the Montgomery County Commissioners; Commissioner Fred C. Peters, and Maxwell

(Continued on Page Three, Column One)

Strawbridge, attorney for the commission.

Peters said the commissioners were unanimously supporting the Horsham Township residents in opposition to the reservoir. When Cressman remarked that Philadelphia needs water and needs it badly, but reiterated opposition to the Warrington project, Councilman L. Wallace Egan observed that as he understood it, the commissioners and residents objected solely because it affected their property and their lives.

"Naturally," said Cressman, "that is the reason."

The Bureau of Municipal Research, through Robert K. Sawyer, a staff engineer, suggested a three-stage construction program which, it said, would involve an immediate capital expenditure of less than \$100,000,000 for water which would meet all quality standards except softness in one year, and all quality standards in three years.

Work in 3 Stages

Stage one would include installation of equipment to remove all objectionable tastes and odors from water of both present sources, and to remove manganese from the Schuylkill River.

Stage two would provide for taking of all needed water from the Delaware at Torresdale, with part of the water going to Queen Lane and Belmont stations, and universal metering throughout the city.

The third stage would provide for future quantity requirements, and would include negotiation of the required compact and securing necessary Federal permits to clear the legal path for construction of a dam at Wallpack Bend.

In the event of failure to obtain by 1950 agreements and permits for construction of the dam, the next more expensive plan, that of supplementing the Delaware River water at Torresdale with water from the Perkiomen and Tohickon Creeks, might be adopted, the Bureau said.

The Bureau estimated the capital costs of stages one, two and three at \$122,968,000, the annual cost for water, including debt service, at \$10,497,925; the probable time for completion at from five to eight years, and the required increase in revenues over the average from 1942 to 1944 at 54 per cent.

William J. Heffernan, international vice president of the Upholsterers' International Union of North America, AFL, urged Council to give serious consideration to an improved source of water supply, with equally serious consideration to the cost of any improvement program.

Cites Rental Increase

"The members of the union have little stomach for today's city water," he added, "but equally little stomach for a 25 per cent rise in water rents that would continue to supply the same filth and disease-laden water with the dubious method of more chlorine or extra processing."

Harry L. Clark, chairman of the water committee of the Philadelphia Boosters Association, said Philadelphia needs a good water supply as quickly and cheaply as possible, and feels that legal difficulties might be involved in the Wallpack Bend project.

Wallpack Dam Questions

THERE is little doubt that all the engineering problems of building a dam at Wallpack Bend on the Delaware, to impound water for Philadelphia, could be solved. Whether the legal problems would also yield is less predictable.

The Bureau of Municipal Research shows that the full legal power necessary to build the dam is not now possessed by the city and cannot be delegated to it by the Pennsylvania Legislature alone.

New York, New Jersey, and Delaware also have rights in the Delaware water, and extensive areas of New Jersey and some in New York would be flooded by the Wallpack Bend reservoir. The right to flood them would have to be acquired, and after that it would be necessary to work out some way to insure protection of watersheds in New York and New Jersey from pollution.

As the Bureau remarks, these difficulties are not necessarily insurmountable. Yet it is obvious that no final decision could be made for a dam at Wallpack Bend unless the necessary legal rights had first been acquired; and acquiring them might consume several years.

Good Water at Low Cost

ACCORDING to a statement submitted by the Bureau of Municipal Research at the last councilmanic water hearing the advantage of a good raw water source lies entirely in the lesser treatment required and the consequent lower treatment costs, and not in the quality of the final product obtainable. A high quality of water, it was said, can be obtained from any of the sources now being considered, *including those now used*, and if the final product is not satisfactory it is the fault of the treatment and not of the source.

The Bureau asserts that treatment necessary to make the Schuylkill water satisfactory would make the annual costs higher than abandoning the Schuylkill and taking all the water from the Delaware at Torresdale. The Torresdale intake, however, would cost far less than any of the upland proposals.

Having gone to Torresdale for its whole supply, the city might pause, waiting to see whether a distant new source will be necessary as a means of securing, not a better water, but a greater quantity of water. More water than can be taken at Torresdale may never be needed.

This is not an argument for the present quality of delivered water. Councilmen will be wise to test the degree of improvement attainable from the continued use of present sources before making any commitment to an upland source. If the proposal is sound, it offers a really good water to Philadelphia at comparatively low additional cost.

WALLPACK'S FOES TESTIFY TONIGHT

Warrington Residents to Protest Water Plan Before Councilmen

A delegation of Warrington Township residents will appear before City Council's Public Works Committee tonight to protest adoption of the Wallpack Bend project, which envisions tapping the Delaware River as a new source of water supply for the city.

The committee will sit in its first night session, it was announced by chairman Phineas T. Green, so that persons employed during the day may attend to testify on the controversial question.

About 100 Warrington Township residents, headed by Tax Collector C. Leroy Murray, will be on hand, it was announced by Mrs. Frederick J. Kalteyer, owner of a 120-acre farm. Sixty will make the trip in a chartered bus, the others by automobile.

The committee also expects to hear the views of the Interstate Commission of the Delaware River Basin (Incodel) from Ellwood J. Turner, chairman, and James S. Allen, executive secretary.

Other scheduled witnesses include Frances A. Wister, chairman of the Society for the Preservation of Landmarks, and W. A. Wells, Philadelphia manager, West Virginia Pulp and Paper Co.

THE MAIL BAG

'Try Loud Speaker at Water Hearings'

To the Editor:

It was reported in the papers on the water hearings that City Council was disappointed that not more citizens attended.

Here's why. Very few people in these busy days can afford the time or energy to go to a meeting which does not begin on time and in which every nerve must be strained to the point of exhaustion to hear what is said.

The ordinary citizen is placed in the most unfavorable situation in all regards. The windows immediately behind are open and the street noises drown out the speakers' voices.

When the Councilmen speak they are facing forward. They should speak a little louder so as to be heard by those back of them.

There seem to be but two methods of public speaking for the American man: Either he rants and roars so loudly that one's eardrums are broken or he speaks monotonously with head down and hands in pockets.

How can the people vote wisely if they can't hear?

TAXPAYER.



NEW WATER PLAN IS SUBMITTED BY PENN PROFESSOR

Engineer Would Procure Supply From Delaware at Trenton

Still another new water supply plan was proposed to City Council last night.

It combines some of the more controversial features of the present setup and the Wallpack Bend upland supply project favored by the Mayor's Water Commission.

It retains the Warrington storage reservoir contemplated in the Wallpack Bend plan, which is bitterly opposed by residents of the affected areas in Bucks and Montgomery counties.

Abandons Schuylkill

It would abandon the Schuylkill as a source of supply. But instead of tapping an upland source it would continue to take it from the Lower Delaware. It would merely move the intake from its present location at Torresdale, where it gets some of the sewage from the city's own Northeast Sewage Treatment works, up to a point just below the Falls of Trenton.

The plan was presented by William S. Pardoe, professor of hydraulic engineering at the University of Pennsylvania and water expert of the Committee of 70. Pardoe was chairman of the working committee of the late Mayor Wilson's Water Commission back in 1937, and it was his contention that the only thing wrong with Philadelphia water is Council's long neglect of the water works.

"If the \$3,000,000 a year 'profit' which has been taken out of the water revenues had been spent on our water plant," he said, "we would have no need for a new program at all."

Plan Would Cost \$110,423,000

Pardoe estimated his plan would cost \$110,423,000 (as compared to the \$284,588,000 cost of Wallpack Bend) and would cost \$11,805,000 a year for operation and debt service. That would re-

quire an increase of 62 percent in the present water revenues.

"I want to emphasize," he added, "that this all has to be spent on supplying the citizens with water. There is no leeway for any graft for City Council."

Pardoe appeared at the first night session in the series of public hearings which Council's Public Works Committee is holding on the water problem. He said he appeared only in his own behalf. The Councilmen let his remark about graft pass in pained silence.

Warrington Residents Attend

The session drew the biggest attendance thus far—about 100 spectators. Most of them apparently were residents of the Warrington-Horsham township area, and they applauded vigorously when Joseph Burness, of Warrington, urged the Councilmen not to build the Warrington reservoir.

"I have a son in the Army in Japan," Burness said. "He has lived in Warrington since he was 6 months old, but if this goes through he won't have a home to come back to. We'll all be displaced people just like those people in Europe. We know you have to have water, but you might find another way where you won't have to take away so many homes."

James H. Allen, executive secretary of the Interstate Commission on the Delaware River Basin (Incodel) and a member of the Mayor's Water Commission, predicted there would be no delay in getting an interstate agreement for the proposed Wallpack Bend dam.

From Incodel's past experience he said he was "convinced that Pennsylvania and Philadelphia will be able to deal with New Jersey interests on a co-operative and speedy basis if Philadelphia should decide to go to the Upper Delaware River basin for its future water supply."

NEW FIGHT IS MADE ON DAM PROJECT

Warrington Officials say Water Plan will Wipe out Third of Taxables

Location of a reservoir and dam in Warrington Township, Bucks County, in connection with a proposed new upland water supply for Philadelphia, will wipe out one-third of that community's taxable properties, township officials contended today.

They were among those heard when City Council's Committee on Public Works, headed by Councilman Phineas T. Green, chairman, resumed public hearings on various plans under consideration for providing Philadelphia with a larger and more modern water supply system.

Summoned by Robert T. McCracken, solicitor for the Bucks County Board of Commissioners, the township officials protesting the location of the Warrington reservoir and dam were George T. Tettemer, real estate assessor; Charles L. Murray, tax collector, and Edward T. Hancock, a member of the County Board of Commissioners.

Judge Ladner Assails Plan

Earlier in today's session, Orphans Court Judge Grover C. Ladner, president of the Schuylkill River Valley Restoration Association, condemned the Walpack Bend plan (which involves construction of the reservoir objected to in Warrington Township) and suggested, instead, that a wholly state-contained upland source be agreed upon if the present sources of supply cannot be improved.

Tettemer, under the questioning of McCracken, told the committee that Warrington Township's total assessments are \$1,510,962 and that the 2,300-acre site selected for the reservoir is assessed at \$592,395.

Within that site, Tettemer said, are 270 homes and farms housing more than 1,000 persons, all of whom will have to find new homes. Location of the reservoir in the township, he also said, will wipe out two public schools, a parochial school, three churches and the entire village of Neshaminy.

Says Creek Will Dry Up

Tettemer also contended that 35 to 40 miles of Neshaminy Creek will be dried up as location of the reservoir in the township, he said, will eliminate Little Neshaminy and Park Creeks, two of its principal tributaries.

Murray told the committee that the township would lose approximately \$13,000 in present taxes if the reservoir is located in his township and that surviving sections would have to have taxes increased to make up for the loss.

Hancock said some of the buildings that would be demolished under the proposal date back to pre-Revolution days and have been occupied by generations of the same family. In addition to this sentimental objection, he said, he also

(Continued on Page Two, Column Two)

(Continued from the First Page)

opposed the plan because it would involve relocation of many Bucks County roads.

Questions Legality

McCracken told the committee that he seriously questioned Philadelphia's exercise of the right of eminent domain in another county and that he proposed to file a memorandum with the committee later, expressing that objection.

Judge Ladner reiterated his previous objection to the Walpack Bend project on the ground that it is not sufficiently superior to that of taking water from the Delaware at Yardley and that it would involve interstate complications with New Jersey and New York.

On the other hand, he pointed out, adoption of the proposed Upper Lehigh River Basin plan would involve no interstate complications and compared its estimated cost of \$240,000,000 with the estimated \$360,000,000 cost of the Walpack Bend proposal.

"It is my view," Judge Ladner told the committee, "that if we go to the Walpack Bend, it will give us very little better water, at a vastly greater expense, than if we moved the intake to Yardley."

"If the citizens of Philadelphia want a pure upland source of water, in my judgment they should confine themselves to sources within the State of Pennsylvania, free of all interstate complications and so far as possible in a protected watershed that is not likely to be either industrialized or urbanly developed and which can be policed and protected by our own State laws."

COUNCIL IS URGED TO JUNK UPLAND WATER PROJECT

Plan to Improve Treating of Present Supply Gains Support

Judge Grover C. Ladner, the Citizens' Council on City Planning and the Northeast Chamber of Commerce all urged City Council yesterday to go slow in spending money on an upland water supply.

Ladner, a member of the Mayor's Water Commission, broke with his colleagues and the commission engineers and indorsed the recent proposal of the Bureau of Municipal Research. This calls for abandonment of the Schuylkill but continued use of the Lower Delaware River with improved treatment to remove tastes and odors.

Asks Early Improvements

Walter P. Miller, chairman of the Citizens' Council's water committee, asked Council to make preliminary improvements to the present system immediately and make its final choice from these three proposals:

1. The Bureau of Municipal Research plan, estimated to cost \$91,568,000 (plus a possible future expenditure of \$31,400,000 for a dam to insure a daily supply of 500 million gallons).

2. The proposal of Prof. William S. Pardoe, of the University of Pennsylvania, for taking the supply from the Delaware just below the Falls of Trenton and pumping it to a storage reservoir at Warrington, Bucks county. This would cost \$110,423,000.

3. The Water Commission engineers' so-called Yardley-Wallpack project, which would take all the water at Yardley, four miles from Trenton, but would require a regulatory dam at Wallpack Bend. It would cost an estimated \$137,456,000.

Most Radical Proposal

Frank T. Wilson, executive director of the Northeast Chamber of Commerce, had the most radical proposal of all. It was simply to continue using the present sources—the Schuylkill as well as the Lower Delaware—and fix up the water works.

On the basis of the Water Commission engineers' calculations this would cost \$62,588,000, but Wilson subtracted \$15,010,000 to provide extra capacity which he said isn't needed and added \$5,000,000 for ozonation or other equipment to remove tastes and odors and render the Schuylkill water softer and less corrosive. His final figure was \$52,558,000.

Bucks Commission Plan

Frank M. Zeller, an engineer with offices at 139 S. 3d st., indorsed the plan favored by the Water Commission itself—for construction of a dam on the Upper Delaware at Wallpack Bend and a deep pressure tunnel to bring the water to Philadelphia. But in the meantime he advised the city to sink "35 to 40" artesian wells in South Philadelphia to provide a supplemental supply in that area of low pressures.

Yesterday's hearing of Council's Public Works Committee was enlivened by the testimony of three Bucks county officials who opposed the proposed Warrington reservoir—an integral part of both the Wallpack Bend plan and Prof. Pardoe's plan.

Object to Loss of Homes

Called to the stand by Robert T. MacCracken, counsel for the Bucks county commissioners; they were Real Estate Assessor George Q. Tettemer, Warrington Township Tax Collector Charles L. Murray, and County Commissioner Edward C. Hancock, of Warrington. The substance of their testimony was that the proposed reservoir would destroy the homes of more than 1000 persons, and cost the local Government about \$13,000 a year in taxes.

The session ended with a discussion of whether to hold further public hearings, in view of the public's apathy. It was decided to hold one more meeting on June 25 to hear the Lehigh Coal & Navigation Company's proposal.

NEW DAM OPPOSED BY BUCKS OFFICERS

Foes Say Plan Would Flood \$592,000 in Land, Make 1,000 Homeless

The proposal for a dam and reservoir in Warrington Township as part of a new upland water supply for Philadelphia, was opposed yesterday by Bucks County officials, who said the project would flood land assessed at \$592,395 and wipe out homes and farms of nearly 1,000 persons.

County Commissioner Edward C. Hancock, who led the opposition at a public hearing before City Council's Public Works Committee, said the Warrington plan also would eliminate historic communities dating back to the 1700's.

George Q. Tettemer, Bucks County real estate assessor, estimated the dam would flood 2,300 acres and wipe out 270 homes and farms, two schools, three churches and a fire house. He said it would wipe out the village of Neshaminy. The Warrington plan is one of several proposals being considered by Council as potential sources of a new water supply.

Judge Grover C. Ladner, the Citizens' Council on City Planning, and the Northeast Chamber of Commerce urged Council to go slow in spending money on an upland water supply. Ladner endorsed a recent proposal of the Bureau of Municipal Research, which calls for abandonment of the Schuylkill, but continued use of the lower Delaware, with improved treatment to remove tastes and odors.



Testers (from left) E. Walter Hudson, Lillian Cohen, Mrs. Walter Craig, Harry K. Butcher, Joan Levy, Elizabeth Baton

THE EVENING BULLETIN, Phila., Thurs., June 20, 1946

Connoisseurs Sample City's Water; Find Queen Lane Drink is Worst

Eleven connoisseurs of drinking water, whose taste can detect the nuances of the vintage stuff ranging from sparkling Schuylkill to bottled Vichy, got together today and smacked their lips over sample slugs representing the various sections of the city and suburbs.

Over some they rolled the liquid around on their tongues and rolled their eyes in pure ecstasy. On some other sips—well, they were not so ecstatic.

To keep you no longer in suspense, the water from Queen Lane, serving the northwest section of the city, was found to be the worst of all, with some of the judges appearing to have trouble getting their breaths after sampling it.

After drinking it, some of the judges' taste was so injured that they couldn't record any taste at all on some of the other water served to them; their tongues were numb—more or less. Well, maybe it wasn't as bad as all that, but anyway, Queen Lane water scored seventh among seven samples.

Commercial Brand First

First place went to a ringer; rather, a commercial table water.

The testing was done under the auspices of the Citizens' Commit-

tee on City Planning at the Sylvania Hotel.

It was very scientific. There were seven set-ups of water; in each there were 11 glasses. Somberly the jurors approached the ordeal. All they knew was that they were to drink Philadelphia water. They didn't know how bad it was going to be. They steeled themselves and each took a drink out of each of the seven set-ups. They tasted it all; and being brave men and women, they even swallowed it.

After doing all the tasting, they conferred among themselves, and when the votes were in, Morris W. Wood, in charge of the test, announced the order of the winners, or losers, or however you should measure Philadelphia water.

Second place went to the so-called "Springfield" water of the Philadelphia Water Suburban Water Co., Delaware County. Third was Springfield water in the Narberth area; fourth, to the Fairmount Park spring water; fifth to the water of the Belmont reservoir area, and sixth and next to last to the Torresdale water supply serving the northeast part of the city.

Wood said: "I think it is significant that the test came about as we expected."

Better Water Treatment

PHILADELPHIA has almost always been ready to talk about spending hundreds of millions of dollars for a new and distant source of water supply, and rarely disposed to discuss putting just a few million into making the water from present sources as good as any that could be obtained from distant sources.

Hence the reported willingness of City Council to spend \$4,000,000 on an improved treatment process is a gratifying reversal of form.

The Water Bureau has reported success in limited experiments aimed at removing objectionable tastes and odors from the water delivered to Philadelphians. To extend the experiment before committing the city to vastly more costly projects is common sense.

Though the water were brought to a point where it offended no palates or nostrils, there would probably still be those who would object to it because it had to be doctored. But water engineers know that there is no water that would not need to be cleansed before being served to the city, and that objecting to water because it once was dirty is hardly more sensible than rejecting a laundered shirt because it once was soiled.

The most conservative of the plans for continuing to use present sources will cost many times the \$4,000,000 mentioned as the cost of the new treatment process. The new treatment, however, is a logical starting point.

PLAN FOR POCONO WATER IS AIRED

Council Group Hears Proponents of Lehigh Co.'s Proposal

Proponents of the Lehigh Coal and Navigation Company's plan to bring unfiltered Pocono mountain water to the city, were heard today by City Council's Committee on Public Works, at another hearing on the city's water supply problems.

About 60 persons attended the hearing in Room 400, City Hall. They heard the Pocono plan expounded by William A. Schnader, general counsel for the company; Robert V. White, president, and several engineers who were employed by the company to make surveys.

Both Schnader and White pointed out that since 1822 the Lehigh Coal and Navigation Company has enjoyed complete water rights in the Lehigh River.

White said the company proposes to sell the city its complete water rights in the Lehigh and its tributaries, and approximately 10,500 acres of land for construction of dams or for protecting the watershed. He said the company would assign to the city all water contracts now in existence.

Denies \$12,850,000 Land Price

"Today is not the time to discuss price," he said. "That question will arise after you have decided to avail yourself of the Pocono plateau as the city's water supply source. However, there is one story which I should like to scotch now.

"Certain opponents of our plan have circulated the story that we are asking \$12,850,000 for land and water rights. This is totally untrue. We have never thought of such a figure. The figure \$12,850,000 was included in our estimates as the cost of acquiring all the land and rights which would be necessary for the entire project, including payment for our own land and water rights."

Schnader pointed out that Boston, New York, Los Angeles, Harrisburg, Bethlehem and other cities supply unfiltered mountain water.

"We do not contend," he added, "that filtering would make Pocono water less desirable, but we do contend that it would be uneconomical for Philadelphia to continue to spend approximately \$2,000,000 a year for filtering and pumping, if filtering can be safely eliminated.

Disputes 100% Rate Rise

"That \$2,000,000 has much to do with the Water Commission's estimate that the substitution of mountain water for polluted river water would increase the water rates of Philadelphia 100 per cent. Eliminate the filtering and pumping and much of the increase in rates disappears."

Schnader asserted that he could demonstrate also that the type of construction which the Water Commission's engineers say is mandatory, would be extravagant and wholly unnecessary if Pocono water is supplied.

Ford Kurtz, engineering manager of the J. G. White Engineering Corporation, New York, said the supply of unfiltered water under the Lehigh Coal and Navigation Company plan would be adequate for the next 100 years.

Charles E. Ryder, former chief engineer of the Water Supply Commission of Pennsylvania and of the Water Power Resources Board, corroborated Kurtz's testimony.

He asserted that the board of consulting engineers to the Philadelphia Water Commission had placed too high estimate—500,000,000 gallons daily—as the city's requirements in the year 2000.

Ryder estimated a population loss for Philadelphia of 100,000 persons by 1950 and said that there will be little rise for many years in the present per capita consumption of 160 gallons of water per day.

ENGINEERS DOUBT WATER'S PURITY

Dispute Lehigh Assertion Pocono Supply Would Not need Filtering

Engineers of the Philadelphia Water Commission today disputed assertions by spokesmen of the Lehigh Coal and Navigation Co. that it would not be necessary to filter water drawn from the Lehigh River basin.

The engineers, members of the board of consultants employed by the commission to study plans for new courses of city water, testified at the last scheduled public hearing of City Council's Public Works Committee, in Room 400, City Hall.

About 160 persons at the hearing heard the engineers speak in rebuttal to testimony given yesterday by spokesmen for Lehigh, which seeks to sell the city a plan to draw water from the Lehigh River. The engineers have recommended the Wallpack Bend project.

"I am quite positive the Pennsylvania Department of Health will not approve a new source of water supply without filtration," said Francis F. Friel, secretary to the Board of Consulting Engineers.

Called 'Over-Sanguine'

Charles A. Emerson, a member of the board, recalling that company spokesmen had called the commission engineers ultra-conservative, declared: "We feel that they are over-sanguine. I don't believe we should cut any corners in the expenditure of hundreds of millions of dollars."

Joel D. Justin, also a member of the board, said the Lehigh Company experts were "sailing too close to the wind" when they calculated 99 per cent availability of water in the upper Lehigh region.

In response to questions by Councilman L. Wallace Egan, Friel pointed out that the Wallpack Bend project would be in a rugged mountainous region which is unlikely ever to become industrialized, with attendant pollution.

Councilman Clarence K. Crossan said he sees no difference in the quality of raw water available in the upper Lehigh or Wallpack Bend.

Councilman Phineas T. Green, committee chairman, said he had been informed by Morton Witkin,

(Continued on Page Two. Column Seven)

Engineers Doubt

(Continued from the First Page)

president of the County Commission, that if a referendum on a source of supply is to be held at the November election, all data must be in his office by August 12.

Navy Officer is Heard

Lieutenant John F. Clarke, representing the commanding officer of the Naval Air Station at Willow Grove, said a reservoir at Warrington under the Wallpack Bend plan would make it impossible to extend runways at the air station because the land would be inundated. He said the project also would interfere with expansion of the station.

Albert S. Faught read a statement in behalf of the Horsham Citizens' Committee, which is opposed to a reservoir at Warrington. Most of the spectators at the hearing were residents of Horsham Township whose properties would be inundated.

On motion of Egan, the Councilmanic committee gave William A. Schnader, counsel for the Lehigh Coal and Navigation Company, and Frank B. Murdock, special counsel to the Philadelphia Water Commission, the right to submit statements concerning the company's proprietary right to the waters of the upper Lehigh River.

Green announced that a series of Councilmanic caucuses will be held, with Mayor Samuel attending, and the result of the deliberations will be discussed at future public hearings before the Public Works Committee.

Pure, Palatable Water in One Year

OVER a period of years the idea has been sold to many Philadelphians that only water brought from distant mountain sources is fit to drink. This view has been vigorously supported by those who had some special interest in its adoption.

The growth of this idea has been fostered by the unpleasant odor and taste of the water that issues from the householders' faucets. The belief has taken such a strong hold that a great many citizens think it would be wise for the City to spend fabulous sums to tap up-State sources and bring mountain water to Philadelphia.

This is an unsound notion. It ignores facts. And it threatens to involve the City in an utterly useless expense and saddle it with a permanent water-supply upkeep burden out of all proportion to the advantages supposedly to be gained.

The truth is that drinking water from whatever source is a raw product that needs processing to make it at all times palatable and wholesome. That goes for mountain water. Even mountain water, before it could be delivered to Philadelphia consumers, would become a manufactured product. So is the water we are getting. What is needed is an improved process of manufacture.

A sound approach to solution of Philadelphia's water problem has been presented in a series of articles, analyzing the reports of the Water Commission, which recently appeared in *The Bulletin*.

These articles demonstrated that the water we now get from the Delaware and the Schuylkill is adequate in quantity for all the foreseeable future needs of the city, but that it is not properly processed. It can be made palatable as well as wholesome, and at much less cost than the city would have to assume to bring water from other sources and process it.

Philadelphia can get pure, palatable, odorless water, by the installation of proper and efficient means of treatment, *within one year*.

It can complete arrangements for abandonment of the Schuylkill as a source of supply, thereby eliminating a particularly "hard" water, and can rehabilitate its pumping, storage and distribution system, *within the space of three years*.

It can do all this at a cost of \$91,000,000 (compared with a cost of \$185,000,000 for the cheapest of the up-State plans), and have as good a drinking water as is supplied to any city in the country.

There is reason to believe that some members of City Council hold these views.

In carrying into execution the quickest and least expensive plan for giving Philadelphia a pure, potable and odorless water supply the Council would deserve the support of every citizen, including those who have been persuaded that water which flows from the mountains would be much better than properly prepared river water when delivered to the homes, and that it could safely be consumed without manufacturing treatment.

Cost of Good Water

FOR about \$91,000,000, as The Bulletin has pointed out, Philadelphia can assure itself of pure and palatable water without drawing upon distant sources. By the first steps of this expenditure it can get odorless, healthful water, devoid of any unpleasant taste, within one year.

The outlay is many millions less than the cost of any other solution of the water problem.

The overall figure includes the expense of increasing the daily supply to 500,000,000 gallons—a quantity not needed now or in the foreseeable future. That expenditure could be reduced to \$76,500,000 by providing only the required quantity of water. Unforeseen need can be met when and if it seems likely to arise.

What would the city get for the \$76,500,000?

For \$25,000,000 the Schuylkill, undesirable because of its unreliable flow, its hardness and the high manganese content, could be abandoned. Water taken from the Delaware at Torresdale could be delivered by pumps and conduits to the Belmont and Queen Lane filter plants for treatment and subsequent distribution to present Schuylkill consumers.

For about \$28,100,000 the city could make all the improvements included in the "Revised Water Bureau Program" not purchasable with the unexpended balance of the current water loan. These would include improvements to pumping and purification facilities, and extensions and improvements in the distribution system.

For \$4,000,000 the city could install facilities for taste and odor control.

For \$19,400,000, the city could have what the Water Commission's consulting engineers call the "future Water Bureau program," including universal metering (an important step if present sources are to provide the quantity of water needed); improvements to three reservoirs (including roofs) and extensions, replacements, cleaning and lining of mains.

The water obtainable from these improvements would not be inferior in taste, odor, or purity to that obtainable from distant mountain sources at a cost four to five times as high. And the quantity obtainable can be made sufficient for the present, the years immediately ahead, and perhaps for all time.

High Water Consumption

PHILADELPHIA'S waterworks delivered 399,000,000 gallons on Thursday. The average recently has been 325,000,000 gallons a day. The highest draft for a day in 1944 was 381,000,000 gallons; in 1945, 357,000,000.

The rivers are high, and the pumps can deliver more water than is usually taken by consumers. What limits the supply now is the filter plant capacity.

During the war years when industry was running full tilt, requests during the hot days that Philadelphians go easy on water met with gratifying response. Consumption was kept low.

Not much has been said this year about the need to conserve, and perhaps some carelessness has developed. But the warning has again been sounded. Dry mains and faucets are more than an inconvenience. They can be a grave menace.

Opening of fire hydrants for public bathing is held largely responsible for Thursday's high score. It is too bad to have to frown on such refreshment. With a more adequate water plant a different policy may be possible.

Cost of Solving City's Water Problem Runs from 91 to 316 Millions.

By A. H. ROBERTS
(Of The Bulletin Staff)

The City of Philadelphia, in trying to solve its problem of water supply, is in the position of a man who is trying to make a living growing apples.

The apples are sour, and some are wormy. They do not sell well. The grower hires a horticulturist to tell him what to do. The expert makes a lot of tests and scours the county looking for good orchard land. Eventually he reports results.

"There are several things you could do," the expert says. "I've found a beautiful tract up toward the hills. What an apple orchard that would make! And you should see that view . . .

"Of course, you can still get a lot of good apples out of your trees here. They'll need some grafting and pruning. Those trees may be a little old, but a lot can be done with them."

"What about this real estate agent who's been calling me up?" the grower asks. "This fellow says he's got the best orchard land in the state, a little farther up in the hills."

But the Figure's Too High

"Forget it," the expert snorts. "His cost figures are no good."

A few days later, the grower is talking it over with some neighbors. One of the farmers gets out a pencil and does a little figuring.

"Why, you can grow as good apples as anybody, right on this land you own," says the neighbor. "All you've got to do is do some grafting and pruning, like your expert said. But, you also should do some spraying to get rid of those worms.

"And furthermore," he adds triumphantly, "you can do it for hardly more than one-third the outlay. Maybe not even that much. And you won't have to wait to grow a lot of new trees."

Electorate to Decide

That's where the grower is today,

still trying to make up his mind.

For Philadelphia, either the City Council or the electorate will decide. The question is: whether to obtain a new upland water supply, at a capital cost of nearly \$316,000,000, which is a seven- to ten-year job, or to modify and improve the existing plant, at an outlay of perhaps \$91,500,000, to get rid of bad tastes and smells in one year and hardness in three years.

The board of engineers which surveyed sites and prepared cost estimates on upland sources for the city is inclined to believe that most Philadelphians, conditioned by 20 years of drinking "Schuylkill cock-tails," are ready to shoot the works for a new water source.

"Philadelphia," as one of them put it, "has a water psychosis. Therefore it is presumably willing to spend money, not merely for good water, but for mountain water."

What Is Mountain Water?

What is "mountain water?" The phrase conjures up pictures of a pure and sparkling stream, or a limpid lake nestled among the hills. But not to the engineers. Here is what they said in their first report to the Water Commission:

"None of the investigated upland waters, from whatever source, was found to be safe and suitable for general public use without filtration. . . ."

Water from any source will have to be chlorinated. The consulting engineers for the Lehigh Coal & Navigation Co., who contended that water from their proposed source would not even need filtration, made this statement:

"Of course, any water used from a surface source should be chlorinated to insure disinfection."

In other words, no matter where the water comes from, it will contain at least minute quantities of chlorine. It has to, to protect it while it is in the mains, if for nothing else.

(This is the first of several articles on the city's water problem.)

CITY CAN IMPROVE WATER IN A YEAR

**Cost is \$4,000,000 Under
Cleanup Plan; 3-Year
Program \$91,000,000**

**By A. H. ROBERTS
(Of The Bulletin Staff)**

In recent months, at least 11 alternatives have been examined in the search for better water for Philadelphia. Through engineering investigation and public hearings, most of them have been more or less eliminated from consideration.

Today, as City Council and the city administration move toward a decision, there are two outstanding contenders.

One is the Delaware River Project, the combined choice of the Water Commission and its Board of Engineers. It includes a dam at Wallpack Bend, above the Delaware Water Gap, a regulating reservoir at Warrington, and an 80-mile pressure tunnel, hundreds of feet under solid rock. The capital cost would be \$315,791,000, the construction time seven to ten years, and the revenue requirements double those existing at present.

The other, and the most recent, was proposed at a public hearing by the Bureau of Municipal Research, through its staff engineer, Robert K. Sawyer. This proposal will be examined in this article.

A Three-Year Plan

The Bureau of Municipal Research, a privately-supported and non-political body, putting aside the esthetic satisfaction of owning an upland water supply, says that a thoroughly satisfactory water can be obtained in three years, at less than one-third the capital outlay proposed in the Delaware River Plan.

In one year or less, and for \$4,000,000 or less, the Bureau plan would produce a drinking water which would meet all standards except that of softness, its proponents say. That would be the end of the chlorine cocktail.

Sawyer reasoned out his proposed solution as follows:

Regardless of its source, all water for Philadelphia would require filtration and chlorination, at the least. Any water, therefore, would be a manufactured product. In this statement Sawyer has not been contradicted.

He sets up the standards which are common in municipal water supplies: freedom from objectionable tastes and smells, from discoloration, hardness, turbidity, corrosive power and from disease-bearing organisms, and ample in quantity.

Advantage of Good Raw Water

He then inquires into the various proposals for obtaining such a water, using, in the main, the data accumulated by the Water Commission's engineers.

"The advantage of a good raw water lies in the lesser treatment required, and the resulting lower treatment costs," he says. "On the other hand, a high-quality water, conforming to the requirements stated earlier, can be produced by proven methods of treatment, from any of the present or proposed sources."

Good drinking water may be obtained most economically, he concludes, by applying and modifying a proposed program of improvements in the present water system. The plan is divided into three stages, two of which would be undertaken at once.

Stage One, which would get rid of the taste and smell in the city's water, would consist of applying some method of positive taste and odor control to water now pumped from the Schuylkill and Delaware Rivers.

Variety of Treatments

The type of treatment Sawyer would leave to the decision of the Bureau of Water. The cost estimate of \$4,000,000 was based on ozonation, that being probably the most expensive. Other possibilities are superchlorination, the chlorine-dioxide process and the activated carbon process.

The activated carbon process directly removes the matter, which, in combination with the small amount of chlorine used for sterilization, produces the bad taste and smell. The other methods oxidize the taste-producing matter, and it then becomes filterable.

This stage should require a year or less to complete. It would cost \$4,000,000 at most.

Stage Two would require three years for construction. With Stage One, it would mean a capital outlay of \$91,568,000, an annual cost of \$9,333,925, and require a 28 per cent increase in revenue. This is based on the Water Commission's engineers' estimate of a population of 2,400,000 in the year 2,000, and an increase in total water consumption of more than 50 per cent.

If a less conservative population estimate were adopted, Sawyer's plan would cost still less.

(The plan of the Bureau of Municipal Research will be further explained in an article tomorrow.)

Blame is Put on the Schuylkill River for Bad Water Complaints Here

By A. H. ROBERTS
(Of The Bulletin Staff)

(Third of a series)

If it were not for the condition of the Schuylkill River, it is doubtful that Philadelphia's water supply would ever have acquired its bad name.

The Schuylkill, from which the city pumps 55 per cent of its requirements, occasionally delivers water with a bad smell and taste. These are caused by industrial phenolic wastes in combination with the chlorine which must be used to sterilize the water.

The smell and taste can be treated out of the water, and the first stage of the plan advanced by the Bureau of Municipal Research consists of installing the equipment to do this. The Bureau estimates the cost of this stage at \$4,000,000, at the most, and the time required at a year or less.

That done, the water would be palatable. But it would still be hard. It could be softened chemically, but that process is expensive.

Cheaper to Abandon Schuylkill

In the long run, it would be cheaper to abandon the Schuylkill and pump the city's entire requirement from the Delaware River at Torresdale, the Bureau finds. Consequently this is included in Stage Two of its recommendations.

The Board of Engineers of the Water Commission estimated, roundly, that it would cost \$25,000,000 to build the conduits and pumping facilities for transferring Delaware River water to the Belmont and Queen Lane filter plants. Delaware water is classified as moderately soft.

Along with this, the Bureau recommends that the city proceed with its program of improvements to the water system. These would provide double filtration for all city water and universal metering.

The Commission's engineers estimated the improvements would cost \$62,568,000, not counting \$9,000,000 loan funds on hand. Add \$4,000,000 to this for removal of tastes and odors and \$25,000,000 as the price of abandoning the Schuylkill, and the cost of Stage Two becomes \$91,568,000. The time: three years.

500 Million Future Estimate

This cost includes \$15,010,000 for augmenting the water works so as to handle 500,000,000 gallons daily, which the engineers laid down as a figure for a population of 2,400,000 in the year 2,000.

Half a billion gallons is more than

50 per cent in excess of the daily water consumption now. Robert K. Sawyer, staff engineer for the Bureau of Municipal Research, doubts seriously that the population will reach 2,400,000 in the next 54 years but he accepted the half-billion gallons as the only basis on which costs could be compared.

Sawyer notes that the engineers threw in a 15 per cent over-all safety factor, after using very conservative estimates on both per capita consumption and increases in population. This 15 per cent factor alone raised the estimated daily water requirement by 64,500,000 gallons.

Could Cut Off \$15,000,000

By building merely for present requirements, and counting on universal metering and continuous pitometer surveys to reduce the per capita consumption as the population grows—if it grows at all—the city could cut \$15,000,000 from the cost of Stage Two, bringing it close to \$76,000,000.

Whether that would be safe could be decided only by statisticians, aided perhaps by the actual results of complete metering. Only half the city consumers are metered now.

Under whatever water plan the city adopts, the rehabilitation and new filtration construction would have to be undertaken. What Sawyer would do, in addition, would be to abandon the Schuylkill and add a means of eliminating tastes and smells, which he said would at most cost the comparatively small sum of \$4,000,000.

Keep Plants as Stand-by

With Stage Two completed, Sawyer would have the city keep its plants on the Schuylkill in a stand-by status. If the supply in the Delaware should fall so low as to require pumping more than five per cent of the city's water from the Schuylkill, in any year, then Stage Three would be undertaken.

That consists of building the dam at Wallpack Bend, as proposed by the Commission's engineers—provided the legal clearance is gained in pacts with New York and New Jersey.

Stage Three would raise the capital outlay to \$122,968,000 (based on the 500,000,000 gallons daily); the annual cost to \$10,497,925; the required revenue by 54 per cent, and the construction time to five to eight years.

(Charles A. Emerson, chairman of the Water Commission's Board of Engineers, is interviewed in tomorrow's article.)

The Water Vote

CITY Councilmen are reported to be working against an August 12 deadline in their water problem deliberations. That is the last date for putting questions on the ballot for the November election.

There was a great deal of talk about putting a water question on the spring primary ballot, but the idea was dropped. For one thing, nobody seems to have been able to frame a very sensible question. About the best anybody could cook up sounded something like this: "Do you want the city to pay about \$315,000,000 for mountain water or would you prefer to buy something just as good for about \$90,000,000?" There is no reason to suppose that a more sensible question could be framed now.

There is another difficulty. In the present state of the law, the voters probably can play no part at the polls in the adoption of a water program except to accept or reject Council's proposals to borrow money. Such proposals presuppose that Council has made up its mind on what it wants to do. In water supply, as on most other major issues, the law places the duty of making the initial decision on Council.

Councilmen might be wise to forget about the August 12 deadline and to devote themselves to making sound decision of their own instead of struggling to find ways that probably do not exist to put the responsibility on others.

Water Engineer Favors Spending Extra 105 Million for Psychology

By A. H. ROBERTS
(Of The Bulletin Staff)

(Fourth of a series)

When the Board of Engineers of the Water Commission brought in its preliminary report last November, it recommended that Philadelphia take its water from the Delaware River at Yardley and regulate the river flow with a dam at Wallpack Bend.

"It (the Yardley-Wallpack Bend project) is recommended," said the board, "as the most economical and generally suitable upland source of water supply available for the future needs of the city of Philadelphia in the event it is decided to abandon the existing sources of supply."

The conclusion was not satisfactory to some members of the Commission. To them, "upland source" meant water delivered from the impounding reservoir by conduit, not by river bed. These views prevailed. The engineers were instructed to estimate the cost of the Delaware River project, which would bring the water from Wallpack Bend by tunnel.

Tunnel Price \$155,000,000

The Delaware River project is about \$105,000,000 more costly than the engineers' original choice (Yardley-Wallpack Bend) because it includes an 80-mile pressure tunnel, 600 and 700 feet under rock, costing \$155,000,000.

Charles A. Emerson, chairman of the engineering board, says that the Commission was advised that the Delaware River project would be considerably more costly, but the Commission stood on an "upland supply" as a matter of public policy.

"I respect their viewpoint, and I think there's a lot to it," Emerson said during an interview in his New York office, "especially from the psychology angle."

"We could produce a satisfactory water at Yardley, but that \$100,000,000 or so difference will be spent over a period of 25 or 50 years."

Torresdale Could be Used

As a matter of fact, Emerson concedes freely that a satisfactory water can be produced at Torresdale, where the city now pumps

from the Delaware. This is proposed by the Bureau of Municipal Research as the most economical method of getting good water.

"From a cold dollars-and-cents point of view, you should stick to your present source on the Delaware, carry out the Water Bureau's improvement program and spend the \$25,000,000 necessary for abandoning the Schuylkill," Emerson said. "But whether that will satisfy the people of Philadelphia is up to the city administration or the people to decide."

"I think the people want the best they can get for anything like a reasonable cost—and it will be a reasonable cost, comparatively. It is simply a case of whether the people want an upland source of supply, which is a safer proposition and a nicer thought when you take a drink of water."

Bureau's Plan Minimum Cost

"The Bureau of Municipal Research has a reasonable proposition, but it's a minimum-cost proposition. It's a question of whether the people of Philadelphia want that or something better."

"As we said in our report, with double filtration and adequate maintenance you can turn out a good water at Torresdale. Otherwise we wouldn't have recommended that for improvements in the existing supply for continued use."

"But after all's said and done, you'd still have the same raw water that you have now. The Delaware water at Torresdale will always be a difficult water to treat. You've got to have a first-class double-filtration system maintained 100 per cent."

"The water there carries a potential risk that upland water doesn't have. You're depending on a human element, in the case of one, not so much in the case of the other."

Risk of Upsets in Purification

"An upland supply does have some sanitary significance. The history of water treatment shows that the risk you run of some degree of upset in the system is roughly proportional to the pollution of your raw water."

"In order to turn out a safe and satisfactory supply, under the Bureau's proposal, you've got to use the maximum of purification. If something happens, the chances are greater of bad water getting into the mains."

Emerson said that the logic of a minimum-cost supply of satisfactory water would dictate abandonment of the third stage of the plan of the Bureau of Municipal Research. That would require building the dam at Wallpack Bend, but only if it were found necessary to carry the city through periods of drought.

The Bureau's plan, thereby, would cost \$91,568,000. The Water Commission's would cost \$315,791,000.

(Some opinions of George G. Schaut, chief chemist for the Water Bureau for 19 years, will be presented Monday.)

THE EVENING BULLETIN, Phila., Sat., July 6, 1946

Expert Says Present System Can Provide City with Good Water

Retired Chief Chemist of Bureau is Opposed to Any Proposal for New Upland Supply

By A. H. ROBERTS

(Of The Bulletin Staff)

(Last of a series)

As chief chemist of the Bureau of Water for 19 years, and as possessor of a couple of engineering degrees from the University of Pennsylvania, George G. Schaut who retired recently from his city post, ought to know something about what's wrong with Philadelphia water and what should be done about it.

Here are some points he makes:

1. Compulsory metering, by all consumers, with the meters paid for, installed and serviced by the Bureau of Water, might alone obviate the need of expanding a plant now valued at \$98,000,000.

2. With double filtration at the Torresdale pumping station and adequate maintenance—which hasn't always been the case—there were no complaints about Torresdale water.

3. Even the Schuylkill water, as treated by sedimentation and slow filtration at Roxborough, can be pure and tasteless. Yet the raw water there is more polluted than at Torresdale.

Criticism of Wallpack

4. The raw water at Wallpack Bend, where the Water Commission would dam the Delaware River for the city's supply, wouldn't pass muster at a well-conducted swimming pool, having twice the pollution of the accepted standard for swimming.

5. The final test of a municipal water supply, as applied by sanitarians, is the typhoid death rate. Cities of the first class have a rate of less than 2 per 100,000 population. Philadelphia's typhoid death rate is well under half of that.

Schaut looks at it this way: If a water system can yield a product containing not over one *Bacillus coli* per 100 cubic centimeters, it passes the standard of the U. S. Public Health Service. Philadelphia water averages one-tenth of that.

Opposes Upland Source

Therefore, he says, with double filtration, or preliminary sedimentation followed by slow filtration, "the sky is the limit" as far as the raw water pollution is concerned.

"If we're going to have to filter

the water—and we are—count me out on \$300,000,000 for an upland water supply," Schaut said.

Schaut does not even approve of abandoning the Schuylkill, the cause of most complaints about bad tastes and smells, as a source of water. The Schuylkill water can be made safe for drinking in all respects, he said, but the treatment for hardness is expensive and would mean that he would dilute Schuylkill water, 50-50, with water from the Delaware. The result, he said, would be acceptably soft.

Schaut would accomplish this dilution by laying a conduit across the city from Torresdale, similar to that planned if the Schuylkill is abandoned, and pump as much water across town as is taken in from the Schuylkill. The cost of this might run from \$12,000,000 (his rough guess) to \$25,000,000 (estimated by the engineers for the Water Commission).

Would Move Sewer Outlet

To reduce sewage pollution at Torresdale, caused by the discharge from the Northeast sewage plant, Schaut would relocate the sewage outlet downstream, at a point below Allentown. He argues that this would require building a new outfall tunnel on old water intakes at Lehigh, or below Tinton, or elsewhere, as proposed in various water plans.

"This relocation project would prevent the action of the tides from carrying pollution upstream to the raw-water intakes," Schaut said. "It could be financed out of the new sewer tax."

Schaut also said that an impounded supply at Wallpack Bend, or anywhere else, would require periodic doses of copper sulfate and other chemicals to prevent the growth of algae. Algae growths give water a taste.

"Algae treatment is one of the worst headaches you can have," Schaut said. "The Wallpack Bend reservoir would certainly have to be treated in the summer, and possibly in the winter, too."

For taste and odor treatment of city water, Schaut suggested bubbling compressed air upward through it. The city of St. Paul, he said, has done it successfully and cheaply for 25 years.

COUNCIL TO ADOPT 3-YEAR \$10,170,500 WATER PROGRAM

**Taste and Odor Removal
will Fit in with Later
Long-Range Project**

M'LAUGHLIN AIRS PLANS

City Council decided today to adopt an interim three-year \$10,170,500 program for immediate rehabilitation of the city's present water system, including the first practical application of methods of removing the taste and odor from Schuylkill water.

The action was taken pending possible future adoption of a long-range program, which would either draw a new water supply from upland sources, or further improve the present system. Most of the projects approved today are included in the Wallpack Bend and Bureau of Municipal Research programs presented to Council.

With 19 of Council's 21 members in caucus with Mayor Samuel and other officials, the Councilmen adopted a report on improvements to the existing filter plants which was submitted to the Mayor last week by Director Martin J. McLaughlin, of Public Works.

The report was adopted with instructions to McLaughlin to proceed forthwith under the provisions of an earlier \$18,000,000 loan for improvements to the water system.

Commission to Report

Determination of a possible long-range program awaits submission of a report to Council by the Philadelphia Water Commission, whose Board of Consulting Engineers recommended the Delaware River Wallpack Bend project, at an overall cost of about \$315,791,000. It was hinted after today's caucus that the Commission may submit a majority and a minority report.

Additional plans presented at Council water hearings include a proposal by the Bureau of Municipal Research, calling for the expenditure of \$91,568,000 for complete overhauling and improvement of the city's present system, and the plan of the Lehigh Coal & Navigation Co. to draw water from the upper Lehigh Pocono Mountain area, at a cost originally estimated at about \$190,000,000.

Plea to Martin Planned

The Councilmen also voted unanimously today to request Mayor Samuel to ask Governor Martin to speed up the State's anti-pollution program insofar as the Schuylkill and Delaware Rivers are concerned.

THE EVENING BULLETIN, Phila., Tues., July 9, 1946

"Installation of taste and odor controls is not a simple matter to be accomplished in a few weeks," McLaughlin's report stated. "It is therefore recommended that the program be first applied to the rapid sand filters and Belmont and Queen Lane filter plants and later expanded to include the slow sand filters at these plants, as well as those at Torresdale and Roxborough if the results of the first installations justify the extension.

"The treatment proposed for taste and odor control will also remove excess iron and manganese present in the Schuylkill River water.

"In the removal of taste and odors which are produced by a variety of substances, the use of more than one agent may sometimes prove both desirable and economical. Taste and odors caused by organic vegetation compounds, which are frequently identified as musty, are frequently difficult to remove with carbon, but are readily destroyed by use of free chlorine residuals.

Trade Wastes a Problem

"Many trade wastes which produce tastes with ordinary chlorine dosages may readily be absorbed on carbon. The phenolic wastes, which produce the most intolerable tastes with ordinary chlorine dosages, may be absorbed on carbon.

"In the treatment of water from the Schuylkill River with rapid sand filtration, the use of pre-chlori-

(Continued on Page Three, Column Six)

Water Plan Adopted

(Continued from the First Page)

nation is essential, from the standpoint of sterilization.

"Application of sufficient chlorine at, or ahead of the point of coagulation will destroy most of the tastes and odors in this water. When substances of this nature such as the phenols are present the chlorine alone will not produce satisfactory results. Such materials are present in the Schuylkill River water about 30 per cent of the time. During this portion of the time application of carbon at the outlet of settling basins will remove the remaining tastes and odors."

McLaughlin's Proposals

The improvements suggested by McLaughlin would include:

Belmont filter plant: A carbon pre-treatment plant, to be finished within six months, \$3,000; an ozone plant, minimum time for construction 15 months, \$750,000; revision of piping, installation of automatic post-chlorination and corrosion control, \$97,000; moving of high-pressure station to a new location at 52d st. and Parkside av., \$152,000; re-

construction of rapid sand filters, \$200,000; construction of a new rapid sand plant, \$2,520,000.

Queen Lane filter plant, carbon feeding equipment, \$6,000; chlorine solution line, \$4,500; equipment and piping for ammonia application, \$12,000; rehabilitation of mechanical filter beds, \$170,000; new dry feed equipment, \$50,000; new pretreatment plant, to be completed in about two years, \$2,686,000; reconstruction of mechanical filters, to be completed in three years, \$1,765,000.

(McLaughlin said that if ozone treatment at the Belmont plant proves more effective than carbon, chlorine and ammonia at Queen Lane, it will require 18 months to install this equipment there at an estimated cost of \$1,300,000.)

Torresdale filter plant; carbon feeding equipment, \$10,000; additional affluent conduit and automatic chlorinators, \$445,000.

Schnader's Letter

William A. Schnader, counsel for the Lehigh Coal and Navigation Company, insisted in a letter to Councilmen today that it will not be necessary to filter water obtained from the Pocono mountains.

In the same letter Schnader said that the estimated cost to the city of that company's project should be increased to reflect increased costs of labor and materials since original estimates were prepared.

"Our engineers advise us that all costs which were figured as of January 1, 1946," said a memorandum prepared by Schnader, "ought to be increased ten per cent to reflect changed economic conditions to June 1, 1946.

"If this were done \$9,100,000 should be added to the engineers' estimates of the cost of improving the city's present water sources, about \$35,000,000 should be added to the estimated cost of the Wallpack Bend project, and about \$19,000,000 should be added to our estimates of cost, which will approximate \$190,000,000."

Those at today's caucus included Herbert W. Goodall, chairman of the Philadelphia Water Commission; Charles A. Emerson, chairman of the commission's Board of Consulting Engineers; Francis S. Friel, secretary of the board; Director Martin J. McLaughlin, of Public Works; Elbert J. Taylor, chief of the Bureau of Water, and Frank B. Murdoch, special counsel to the Water Commission.

COUNCIL MAY KEEP WATER OFF BALLOT

Expected to Select Plan for Improvement without Going Before Voters

City Council may retain the final decision on the city's future water supply, it appeared today as a \$10,-170,500 interim three-year program of rehabilitation was launched.

Until recently, Council's Public Works Committee has directed its efforts at framing one or more proposals for public decision at the November election.

At least one of these would have been on an upland water source, and another probably would have been on retention and improvement of the present source on the Delaware.

Several councilmen privately have pointed out that Council and the city administration might accept the full responsibility on the controversial choice among sources.

The electorate is not in a better position to decide on the complex technical matters involved, these councilmen said, than Council itself.

May Avoid Campaign Issue

Several councilmen regard the decision yesterday to go ahead with a program of immediate improvements, to remove tastes and smells from the city water as having taken a lively issue out of the 1947 campaign, when 22 councilmen and the Mayor are to be elected.

Council as yet is wholly undecided, Frederic D. Garman, president, said today, as to whether to place the decision before the voters.

Garman said Council, at the caucus yesterday, was assured by Director of Public Works Martin J. McLaughlin that none of the \$10,-170,500 to be spent in the next three years would be wasted, no matter what the final choice of water supply.

An Interim Problem

"It is precisely as described, an interim program," Garman said. "It was approved by the Mayor and Councilmen only upon Director McLaughlin's agreement that it would fit into any long-range program."

It is expected that the Council majority will await the final report of the Water Commission before making up its mind on who is to make the final choice. The report, it is said, has been rewritten three times.

COUNCIL OKAYS SHORT RANGE WATER PROJECT

**McLaughlin Is Informally
Directed to Start \$10,-
170,000 Job**

By EDWARD STONE

Philadelphia can get substantially better water from present sources within six months.

Director of Public Works Martin J. McLaughlin outlined the possibilities to City Council at a conference in Mayor Samuel's office yesterday. The full program to improve the present supply, McLaughlin said, will take about three years.

\$10,170,000 Project

Council informally directed McLaughlin to go ahead at once. As for bringing mountain water here, Council decided to let that ride until the Philadelphia Water Commission makes its final report.

The improvements authorized will cost about \$10,170,000. They include chemical treatment, installation of new treatment and filtering equipment, and rebuilding of old. The promise is that early next year a large part of the city, and eventually all of it, will be drinking tap water comparatively free of unpleasant taste and odor.

To Start at Belmont

The nature of the chemical treatment is not yet finally determined. Carbon, familiar to most people as charcoal, and chlorine, greenish-yellow gas now used to kill bacteria in the water supply, will be tried out first. Ozone, a high-powered form of oxygen, will be tried later.

The program will be started at the rapid-sand filters of the Belmont and Queen Lane filter plants, the water from which gives rise to most complaints of

taste and smell. If the results are satisfactory, the program will be extended to the slow-sand filters at those two plants, and to the Torresdale and Roxborough plants.

To Ask State Speed-Up

As a help, Mayor Samuel was asked to get in touch with Governor Martin and urge that the State speed up its campaign to lessen pollution of the Delaware and Schuylkill Rivers by communities and factories along their banks.

The report of the Water Commission on available upland sources of mountain water is expected within two or three weeks. From commission members came

Continued on Page 2, Column 3.

COUNCIL OKAYS PLAN TO IMPROVE WATER

(Continued From First Page)

hints of possible majority and minority reports.

When the commission's recommendations are made, Council will sit down and discuss the advisability of bringing water here from the Poconos.

No New Sources Considered

No specific new sources were considered at yesterday's meeting. Several have been proposed at recent sessions of Council's Public Works Committee, including a private plan pushed by the Lehigh Coal and Navigation Company. That company sent Council a letter yesterday estimating the cost of its plan at about \$190,000,000 instead of its earlier figure of around \$142,000,000. The letter insisted that the company has the right to convey the use of Lehigh River water, which some lawyers have questioned.

Though taking no action, Council did discuss the desirability of deciding for itself whether an upland source should be used, instead of leaving the decision to voters at the November 5 general election. It is anticipated that some Councilmen will press for such action by Council as a substitute for a general vote.

Sponsored by Water Committee

Action by Council, rather than the voters at large, was recommended in a letter to Council by the Water Committee of the Citizens' Council on City Planning. The letter was made public by Walter P. Miller, chairman of the committee, whose activities are a Red Feather Service of the Community Chest.

After Council has decided on the new water source, the letter recommended, the following question should be put before the voters:

"Do you approve the expenditure of _____ dollars for improvement of Philadelphia's water supply?"

Details of the McLaughlin plan, which the 18 Councilmen present approved unanimously, are rather numerous.

Carbon systems would be installed at Belmont and Queen Lane within about six months, at Torresdale in about eight months, for a total of \$19,000.

Ozone Plant in 15 Months

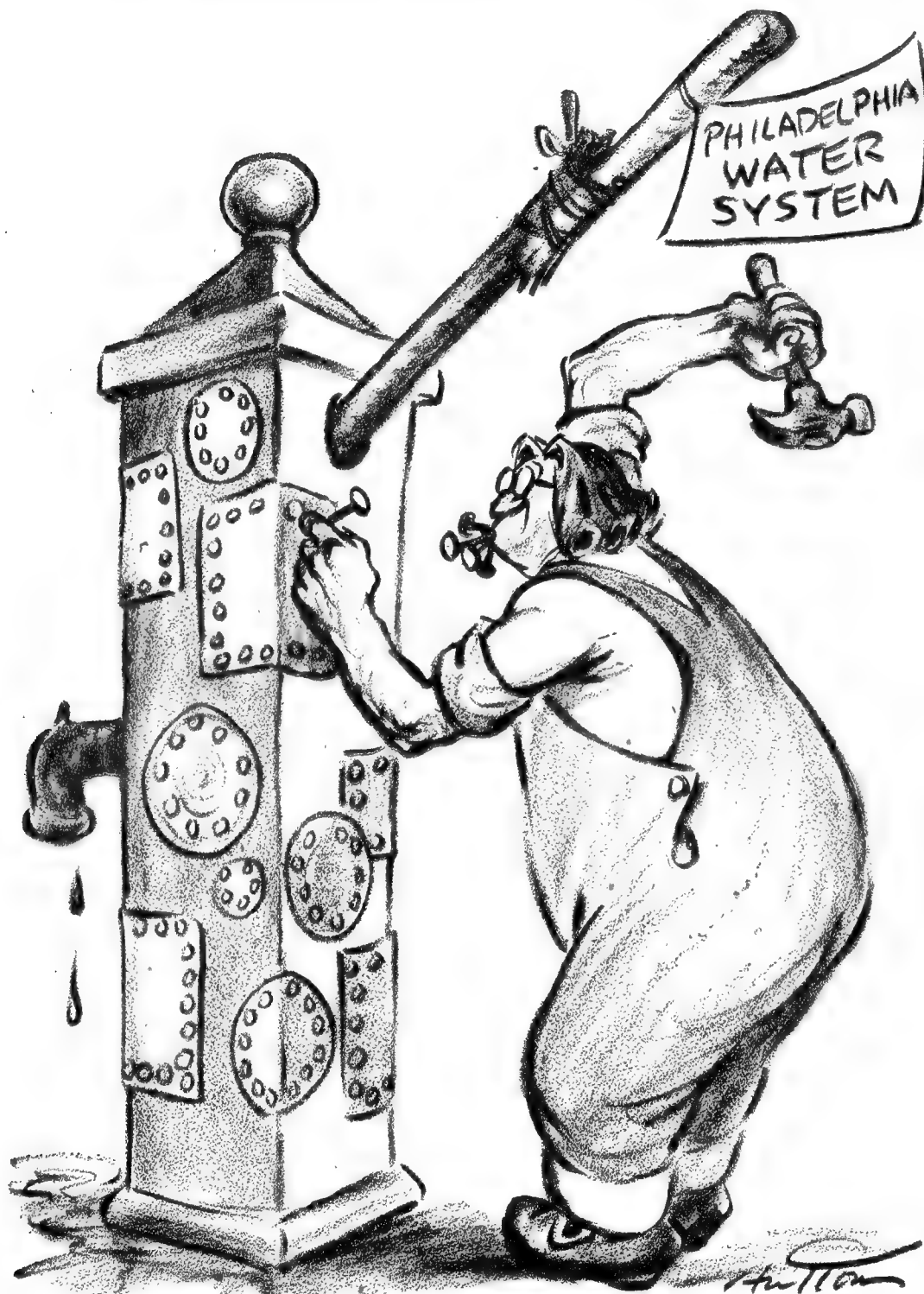
At Belmont, an ozone plant would follow in 15 months, to cost \$750,000. New piping, and automatic post-chlorination and corrosion control, would take a year for installation and cost \$97,000. A new high-pressure station would be built within 18 months at 52d st. and Parkside ave. for \$152,000. Present rapid-sand filters would be rebuilt for \$200,000. A new rapid-sand plant would be completed, at a cost of \$2,520,000, making total Belmont improvements \$3,722,000.

At Queen Lane, in addition to the carbon equipment, a chlorine line would be put in within six months for \$4500, and ammonia equipment in the same time for \$12,000. Filter beds would be rehabilitated for \$170,000 and new "dry feed" equipment installed for \$50,000, both within a year. A new pretreatment plant, to cost \$2,686,000, would be completed in about two years. Rapid-sand filters would be rebuilt in about three years at cost of \$1,765,000.

Other Improvements

Then, if ozone proves more effective at Belmont than carbon, chlorine and ammonia, pre-ozonation would be installed at Queen Lane. That would take 18 months and cost \$1,300,000. Total at Queen Lane, including ozonation, would be \$5,993,500.

At Torresdale, in addition to carbon equipment costing \$10,000, chlorination apparatus would be installed in 18 months for \$445,000, making a total of \$455,000 at that plant.



TEN MILLION DOLLAR JOB ON THE OLD TOWN PUMP

INQUIRER
JULY 11, 1946

City Council Split Over Water Plan

A difference of opinion developed yesterday in City Council on the advisability of asking the voters to decide at the November election on the best way to assure a good future supply of water.

Frederic D. Garman, president of City Council, said one bloc of Council feels strongly that, as elected representatives of the people, the moral responsibility of making the decision rests on the Councilmen themselves.

This group has been arguing, Garman said, that the public generally lacks the technical training and knowledge of all the problems to make an intelligent decision and fears that if the question goes to the people as a referendum, voting will be either simply on party lines or as the result of propaganda, from whatever source.

PROGRAM UNAFFECTED

The matter still is being threshed out inside Council, but the position of those desiring a referendum was understood to be weakened by continuing uncertainty as to whether the people should be asked to approve a single project voted by Council or allowed to choose between two or more alternatives.

Whatever the decision, Garman said that the program covered by the \$10,170,500 voted Tuesday for a three-year program to give Philadelphia better water in the immediate future would not be affected.

The work under this program will be done on improvement of pumping and filtering stations and will be needed no matter what source of future supply is chosen, Garman said. Director of Public Works Martin J. McLaughlin, Garman said, has given both Mayor Samuel and Council assurances to this effect.

THURSDAY MORNING, JULY 11, 1946

New Water Improvement Plan Just a Stop-Gap

The \$10,170,500 water improvement program just authorized by City Council is strictly a stop-gap affair.

It does not provide the over-all answer to Philadelphia's pressing need for a better quality drinking water.

It should make the present system more efficient, and it may even make our drinking water less noxious. But the water will still be drawn from the same source as at present—the open sewers of the Delaware and Schuylkill Rivers.

The program which Council has directed the Public Works Department to get under way is intended to apply to the river water various methods of removing its offensive taste and odor. Whether the tests will be successful cannot, of course, be foretold. There is a difference of opinion among experts whether all taste and odor can be removed by treatment.

But the water will still be a by-product of the sewage-fouled rivers from which we pipe our supply. It may be chemically dosed, chlorinated and subjected to carbon and ozone treatments: the fact remains that it will have originated in pollution. Most consumers would doubtless prefer to obtain their drinking water from a purer source.

As an interim proposition, definitely recognized as such, the improvement plan is sound enough. If and when the city ever gets around to a new water supply taken from upland sources, the project will require considerable time.

Meanwhile, the existing system must not be allowed to deteriorate further. The city has had an \$18,000,000 water rehabilitation fund at hand for some months and this money cannot be put to better use than on needed and speedily undertaken water plant improvements.

THURSDAY MORNING, JULY 11, 1946

Turner Favors Delaware Water Over Upland Plan

By SAUL SCHRAGA

Inquirer Staff Reporter

SHAWNEE - ON - THE - DELAWARE, Pa., July 10.—Declaring that the Delaware River will be delivering a satisfactory drinking water supply to Philadelphia's doorstep within the next five or six years, Ellwood J. Turner, of Chester, chairman of the Interstate Commerce Commission of Delaware River (INCODEL), today advised the city to "forget about an upland water supply."

"It will take at least five or six years before the Wallpack Bend or Lehigh supply could be developed," he added, "and by that time the Delaware will have been cleaned up. If the water treatment system is overhauled, Philadelphians will be getting good drinking water without spending nearly \$300,000,000.

THREE-DAY MEETING

Turner is presiding at the three-day 10th annual meeting of the four-State commission through which Pennsylvania, New Jersey, New York and Delaware handle all matters affecting joint interests in the Delaware River basin.

The Delaware as a water supply, and the program for ending pollution in that stream and the Schuylkill are two of the principal topics coming before the meeting. More than 150 State legislators, representatives of agencies interested in smaller streams that flow into the Delaware, officials of four States and Philadelphia City officials attended.

ABOUT TO BEAR FRUIT

Turner, in an interview preceding the meeting, said that it was his opinion that Philadelphia need not seek more expensive sources of water, now that the 10-year campaign of INCODEL to clean up the river is about to bear fruit.

"INCODEL has battled for 10 years to clean up the Delaware," Turner said. "With the political situation as it is, the new program is going to go right ahead and will be vigorously prosecuted for the next few years."

The Schuylkill will take longer than the Delaware, he said, because the program while going forward "is

Continued on Page 34, Column 1

Delaware Urged For Phila. Water

Continued From First Page

not moving as fast as I would like to see it." The Delaware, he added, will be able to take care of all the city's needs.

Turner, counsel for the Chester Municipal Authority, said Chester was even now getting "good" water from the Delaware because it has a better treatment plant.

EXCESSIVE SALINITY

Chester is now seeking an upland water supply, he added, but that is because of the excessive salinity produced during drought and not because the supply is otherwise unsatisfactory. Salinity would not be a problem in Philadelphia, he said.

He cited the \$60,000,000 estimated total cost of rehabilitating the Philadelphia water treatment system as compared with the estimated \$284,000,000 required to bring water from Wallpack Bend, a short distance from where INCODEL is holding its meeting.

WILL DESCRIBE PLAN

The Wallpack and Lehigh plan will be described here tomorrow by Frank B. Murdoch, special counsel of the Philadelphia Water Commission, who has been investigating sources of water for the city.

Turner said that one danger of an upland water supply from the Commission's standpoint is that Philadelphia, once assured of a good water from a distant source, would lose interest in ending pollution of the Delaware at its own doorstep.

PORT DETERIORATING

He declared that the great Port of Philadelphia was deteriorating because of the waste, both human and industrial, pumped constantly into the river where it not only eats the paint off ships' hulls, but damages boilers and pumps.

"Philadelphia's City Council has a mandate to build sewer treatment plants" and "should be giving more attention to the prosecution of the sewerage program," Turner said. "In May the citizens of Philadelphia voted 10 to one for a \$34,000,000 loan for this purpose. So far nothing has been done about it."

FIRST INSTALLMENT

"As for the water supply, the \$60,000,000, of which \$10,000,000 was appropriated Tuesday, is the first installment on the new program and will have to be spent whether or not Philadelphia gets an upland source of water. If later they decide they want water from Wallpack they can go ahead with it and nothing will have been lost.

"Any water the city gets will have to be treated. Even the cleaned up Delaware won't deliver water so pure that it will be safe enough to dip a pail into it and drink it," Turner said.

The INCODEL meeting was preceded today by a conservational conference sponsored jointly by INCODEL, the Council of State Governments and the Interstate River Commission for the Potomac River Basin.

Improvements Right Away

THE \$10,170,500 worth of water-works improvements a councilmanic caucus has agreed to might be described as an old program with new emphasis.

No new loan authorization is needed, nor is any change of water rents necessary. The money to be used is the unexpended balance of the \$18,000,000 water loan approved by the voters in 1940. As it stood before the war interruption, the program called for taste and odor control after certain other changes in the treatment plants had been completed. A revised plan gives taste and odor control higher priority.

There is reason now to expect that results will be noticeable in a matter of months rather than years. Engineers seem confident that the tastes and odors can be eliminated. They say that the methods proposed have been successful with far worse raw water than Philadelphia takes from its two rivers.

It is curious that tastes and odors, which are the consumer's chief objection to the water, should have been scheduled for such late attention. The recent water hearings probably deserve credit for the speed-up.

Further deliberations on new mountain sources apparently are to wait at least until the Water Commission makes its final report. Yet Council's willingness to commit itself to improvement of water from present sources without waiting for the Commission's advice may be significant. Sometimes it looks as though the Commission has lost the ball. Since its Board of Consulting Engineers has already submitted a report labeled "final," it will be interesting to see what the Commission itself can add.

The Philadelphia Inquirer

MONDAY MORNING, JULY 22, 1946

a 17

City Speeds Program For Water

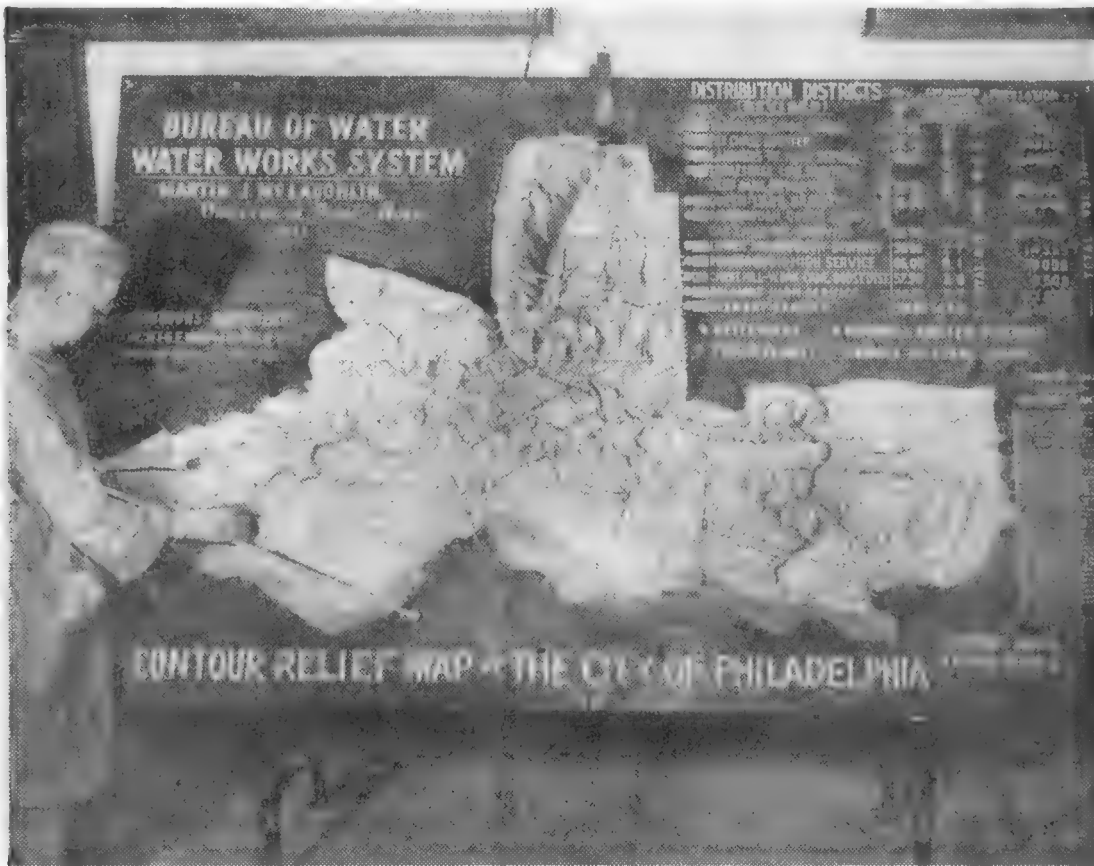
Work on the new electric pumping station at Torresdale, part of the city's \$18,000,000 water improvement program, is moving ahead rapidly and when completed will have a capacity of 200,000,000 gallons of water daily, Elbert J. Taylor, chief of the Water Bureau, announced yesterday.

The work, he explained, is being done in conjunction with the reconstructed Lardner's Point Station and when finished will allow repairs to conduits at Lardner's Point, which cannot be made under present conditions.

EQUIPMENT AMPLE

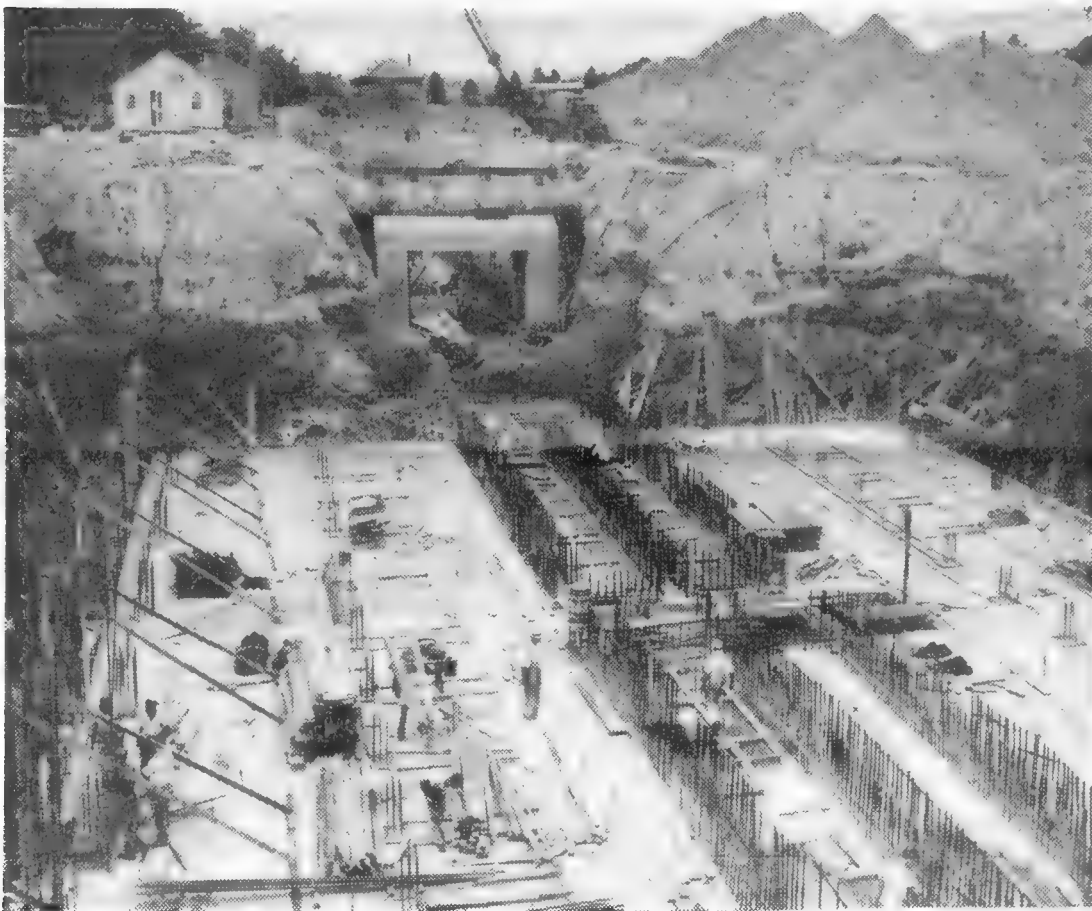
"The combined equipment at Torresdale and Lardner's Point," said Taylor, "will be ample enough to enable us to repair equipment without jeopardizing the maximum hourly capacity. Four 40,000,000 gallon pumps and two with 20,000,000 gallons capacity each are being installed at Torresdale."

In addition to these, the Torresdale "high" service, which supplies Somerton and the area east of the plant, will be served by a new 6,000,000 gallon pump and three 3,000,000 gallon pumps.



TWO PHASES OF CITY'S BETTER-WATER PLAN

As work progresses on Philadelphia's \$18,000,000 water improvement program, skilled engineers are kept busy at City Hall while construction men are hard at work at the site of the new Torresdale Pumping Station. Louis R. Dougherty (above) puts finishing touches to contour relief map of water system as workmen (below) lay concrete flooring for new unit in Torresdale.



PUMPING STATION'S BASE NEARS COMPLETION

Water Board Favors Action By Council on Water Plans

City Council will be asked to choose from among various proposals for a new water supply for Philadelphia without submitting the question to public referendum at the November General Election, it was indicated yesterday at the close of a meeting of the Water Commission. Although members of the 18-man

commission declined to be quoted by name, they indicated that the commission was in favor of not seeking decision by the voters.

ISSUES TOO TECHNICAL

Because of the many technical questions involved, members of the commission feel that City Council could make a better choice, basing its decision on recommendations of the Board of Consulting Engineers.

The board of engineers has compiled an extensive report on each proposal under a \$200,000 fund voted by Council.

Council already has voted \$10,-170,500 for improvement of the Belmont, Queen Lane and Torresdale pumping stations as a necessary preliminary to any of the proposed plans.

BOARD'S REPORT AWAITED

City Council's Public Works Committee, which has been conducting public hearings on the proposals, will hold no more sessions until the Water Commission has made its final report.

The report is being rewritten because of differences of opinion among Water Commission members.

Water

Projects authorized by the \$10,170,500 made available by Council are expected to bring some improvement in Philadelphia's water supply within six months, although they will require nearly three years to complete.

Plans drafted by Director of Public Works Martin J. McLaughlin allot \$5,993,500 to the Queen Lane pumping station, which filters water from the Schuylkill. This sum will permit construction of a new pre-treatment plant with a capacity of 120,000,000 gallons a day as well as the rehabilitation of mechanical filter beds and the installation of carbon feeding equipment.

"Schuylkill Punch" long has been rated the worst of Philadelphia's present water supply because of its magnesium content. Engineers believe that new equipment and filtration methods will make this water as safe, palatable and appetizing as any other.

Another \$3,722,000 was appropriated for the Belmont pumping station, where carbon pre-treatment equipment also will be installed. A high pressure station will be removed to a new location at 52d st. and Parkside ave.

The remaining \$455,000 goes to the Torresdale pumping station for minor changes of a similar nature.

Council's decision on these projects will bring the quickest possible improvement in the city's water supply. It will have an important bearing on other decisions still to be made.

The Water Commission appointed by Mayor Bernard Samuel is presently rewriting its report on nine proposed new water sources for Philadelphia. This report is expected to be submitted to Council early in August. The commission already has recommended, unofficially, that Council choose the new source, without submitting the question to public referendum.

Members of the commission believe that because of the technical problems involved it would be difficult for the electorate to make a wise choice.

Whichever of the new sources is chosen by City Council, the water supply will be filtered and treated. Thus, the funds now being expended on improvement of the filtration plants will prepare them for service in connection with the new water source.

City Ready to Shelve Plan to Get Mountain Water

Cheaper Project for Better Filtration of Present Supply will be Given Real Test

Plans to obtain mountain water for the city of Philadelphia apparently are about to be set aside for at least three years.

The project of going to the Pocono Mountains for a water source, it was learned today, has lost favor with the Philadelphia Water Commission.

When the Commission makes its final report to City Council in a few weeks, it is expected to recommend the \$315,791,000 Delaware River project, its original choice, only as an alternative, to be taken if a less expensive program proves to be unsatisfactory.

Unless Council takes the opposite course—which is believed to be highly unlikely—the effect would be to shelve the more ambitious project while the Bureau of Water goes ahead with its \$10,170,500 three-year interim program to eliminate tastes, odors and color from the present supply.

Referendum Plan Dropped

And if, as a number of engineers assert, this and other work on the treatment system produce a satisfactory water, the movement for an upland source would be forgotten for many years to come.

The original plan of placing the decision of upland versus local water on the November ballot has been

dropped. The proposals would have to be framed for the County Board of Elections by next Monday, and there is no chance that the water commission will complete its work that soon.

Hopes for Early Adoption

Herbert W. Goodall, chairman of the commission, said today that he hoped the report will be written and adopted this month. The commission has been unable to obtain a quorum at its last two meetings, however, because many of its 22 members were away from the city, so Council may not get the report until next month.

In the meantime, the water bureau plans to advertise next week for bids on the first work in its rehabilitation program. They will cover ozonation equipment for the Belmont filter plant, on the Schuylkill River, at an estimated cost of \$600,000.

City Council has instructed the Department of Public Works to proceed with an interim program which will fit into whatever long-range plan the city adopts, and Director Martin J. McLaughlin has put the Schuylkill filtration plants at the top of the list. The Schuylkill is the source of most of the bad taste and

(Continued on Page Three, Column Two)

Water Plan

(Continued from the First Page)

smell in city water.

Should treatment of Schuylkill water fail to satisfy the consumers, the city would then decide whether to switch to an expanded intake and filtration works at Torresdale on the Delaware, move the intakes upstream to a point south of Trenton, or to Yardley, above Trenton, or build a dam at Wallpack Bend.

Two Intake Proposals

The Bureau of Municipal Research has proposed switching to Torresdale, which with treatment and other improvements could be accomplished for \$76,500,000, on the basis of the present consumption. The Committee of Seventy recommended an intake below the Falls of Trenton.

The Board of Engineers of the water commission originally proposed an intake at Yardley and a dam at Wallpack Bend, but the commission itself favored—until recently—an 80-mile pressure tunnel to carry the water from the Wallpack Bend dam. This is known as the Delaware River project.

Water Study Outcome

THE indications are that another drive for upland water for Philadelphia has smashed itself on the rocks of fact and common sense. City Hall has dropped the idea of a popular referendum on the subject, and it is the general expectation that the Water Commission, if it gets around to rendering a report, will not favor the development of distant sources. The logic of this outcome is irresistible.

City Council, having decided what it wants to do about water, can ask the voters to approve the necessary loans, but under existing laws there is no other way for the public, at the polls, to instruct Council in its desires. Nor has it seemed possible for the most skillful phraser of questions to concoct anything for submission to the voters that would not sound foolish. The issue boiled down to whether the public wanted good water at very high cost or at moderate cost, and to that there could be only one answer.

The recommendation toward which the Water Commission is reported to be leaning is to stick to existing sources for the present, and see what can be done to improve the delivered product. Competent engineers feel that there is a complete solution of the water problem in following this course vigorously and conscientiously.

The Water Commission seems fated to follow public opinion rather than lead it, but its appointment has been productive of good. The public discussions have spurred Council to substitute action for neglect in realizing the possibilities of the two rivers that flow by the city's front door.

Engineer Set To Start on Water Project

Job Will Cost
\$195,502,298

Hugo A. Spalinski, sponsor of a private project to pipe pure water from the upper Delaware River and sell it to Philadelphia and New Jersey, announced yesterday that he is ready to proceed with construction within 10 days after he gets permits from Pennsylvania and New Jersey.

Spalinski, a mechanical engineer who lives in Trenton, is president of the Electric Power Co. of New Jersey, a company formed in 1933 specifically for the Delaware water project, for which he said financial support has been arranged through Allen and Co., New York investment security bankers.

PRESENTS PLANS

He presented his plans, entailing construction costs of \$195,502,298, to the office of the New Jersey State Water and Policy Council yesterday but was told by H. T. Critchlow, State Engineer, to present the information in proper legal form if he wished to apply for construction permits.

The engineer said the proper forms would be filed today at Trenton and with the Pennsylvania Water and Power Resources Board at Harrisburg. Sale of hydro-electric power is one of the main features of his proposal.

IGNORED CITY INVITATION

As Spalinski disclosed his plan, Frank B. Murdoch, special counsel for the city on water matters, stated that the engineer had been invited to present his proposal to City Council earlier this year, but did not appear at hearings.

At that time, Murdoch continued, the Federal Power Commission informed Philadelphia authorities that Spalinski had filed a petition with the FPC for his project, but that it had not been acted upon.

PHILADELPHIA INQUIRER.

AUGUST 8, 1946

CITES FEDERAL STATUTES

Murdoch pointed out that the plan could not interfere with city proposals because of existing Federal statutes. These provide that water for municipalities take preference over power projects.

Spalinski's plan proposes the sale of water to the city at \$135 per 1,000,000 gallons. At the 500,000,000-gallon daily consumption estimated as the city's future needs, this would cost Philadelphia \$24,637,500 annually—several times the carrying charges for the Wallpack bend project, now under consideration.

"If we get the permits, we're going ahead whether Philadelphia says it wants to buy the water or not," Spalinski said. "We are offering a 50-year contract, with the provision that Philadelphia or the State of New Jersey, or both, can buy us out any time within that period for the cost of construction plus depreciation."

16-FOOT CONDUIT

Spalinski's plan, placed on file with the U. S. Army Engineer office here in June, is for the construction of a dam at Tocks Island, a mile above Shawnee-on-the-Delaware, from which point water would be carried through a 16-foot underground conduit to Warrington.

Two other dams would be built, one two miles above Easton and another a mile above the bridge at Belvidere, N. J. Arrangements have already been made with existing power companies to sell them power generated at these dams, he said, adding that two and a half years would be required to complete the project.

'CAN WALK ON IT,' GOP'S DUFF SAYS OF CITY'S WATER

Pollution Is One of State's Major Problems, Can- didate Admits

Philadelphia's water is hard enough to walk on.

Philadelphians have to drink water that they won't permit their children to swim in.

These two criticisms of the local water situation were leveled yesterday by Attorney General James H. Duff at a luncheon meeting of the Chamber of Commerce and Board of Trade's River Pollution Committee at the Bellevue-Stratford.

Duff, who is the Republican candidate for Governor, said water pollution is one of the State's major problems.

Drinking—No Swimming

"The water around here is hard enough to walk on," he said. "What kind of system is this under which people are allowed to drink water, but won't let their children swim in it because they're afraid they'll catch some horrible disease?"

Duff said more than two-thirds of the 51 collieries which feed their wastes into waters which ultimately flow into the Schuylkill had taken steps to eliminate pollution. Twelve have stopped the practice altogether, he said, and nine others have reduced pollution 75 to 90 percent.

His criticism was backed up by Col. F. F. French, U. S. District Engineer for Philadelphia.

Nauseating Stench

French reported that on an inspection trip of the Schuylkill Wednesday, he was obliged to order the survey boat moved

from its mooring because of the nauseating stench.

One of the principal problems of Schuylkill pollution, he said, is the 150,000,000 gallons of sewage that Philadelphia pours into the river every day. The solids in this sewage and the mine waste close up the river channel, French said.

He pointed out that the Government spent \$2,000,000 dredging 2,000,000 cubic yards of silt out of the river—but this is about equivalent to the volume of culm poured into the river by up-State coal mines each year.

Rice Unable to Attend

Col. John S. Rice, Democratic gubernatorial nominee, was prevented from attending the luncheon by a previous speaking engagement in Wayne county.

He sent a telegram to J. Harry La Brum, who presided at the meeting, pledging his support to all efforts to clean up the Schuylkill and its tributaries.

Many Proposals for Supply Submitted, But Officials Have No Agreed Program

Hearings Fail To Arouse Consumers

First of a Series

By Richard J. O'Keefe

Philadelphia water for many years has been a bitter subject of discussion by residents of the city and the butt of barbed jokes by visitors whose olfactory and taste sensibilities have been subjected to rude shock on introduction to a glass of it.

For nearly two generations, Philadelphians have listened to proposals to provide them with fresh, uncontaminated mountain water from so-called "upland sources." These suggestions, however, have not yet resulted in a definite program.

COMMISSION NAMED

Currently, the subject is again a matter of study by city officials. Mayor Bernard Samuel last year appointed a Water Commission to crystallize all thought on a new source of water for the city.

The Commission appointed a Board of Consulting Engineers to study the various proposals and to make expert recommendations. Although the latter has favored a program looking to a supply from the upper Delaware River, no final report has been made by the Commission.

A number of proposals have been submitted. Several are variations of the program that has received the nod of the consulting engineers. A plan that discards the Delaware River suggestion of the Commission Engineers has been advanced by the Lehigh Coal and Navigation Company, which advances the Upper Lehigh River as a water source.

PUBLIC CONFUSED

The variety of proposals submitted has resulted in confusing the thought of many Philadelphia water users who, despite protracted public hearings, have only vague ideas of what each plan entails.

The Inquirer, in an effort to present a clear picture of the discussions during the past year, has conducted an extended survey of the various proposals, which it will discuss in this series.

Members of City Council and of the Water Commission, convinced when they undertook the studies of the imperative demand of Philadelphians for an unpolluted water supply, suffered a setback in their enthusiasm by the apparent lack of interest on the part of water users in the procedures.

FEW IN ATTENDANCE

At not one of the many public hearings was there more than a sparse attendance of interested Philadelphia water users. It was unnecessary to hang out the "standing room only" sign at the doors of chambers in which the hearings were conducted.

Attendance generally was limited to experts reporting on the various plans and the individuals whose properties would be adversely affected if certain specific proposals were accepted.

In instituting the studies, city officials contemplated placing before the voters this fall the question of a new "upland" source. In view of the large amounts of money that would have to be expended, they felt the matter should be determined by the voters.

NO CONCENTRATED EFFORT

Interpreting the apparent indifference of Philadelphians to the immediate solution of the problem as evidenced by the small public attendance at meetings as an indication a new water source is not so poignant as they had first believed, no concentrated effort was advanced to push the matter through to a vote this year.

The opposite and adamant positions taken by the Water Commission engineers and the experts of the Lehigh Coal and Navigation Company was another reason for more deliberate action on the part of city officials.

NOT ON BALLOT

As the matter now stands, their will be no water question on the ballot this year. If anything is to be done in setting a long range water policy before the end of 1946, City Council will have to make the decision.

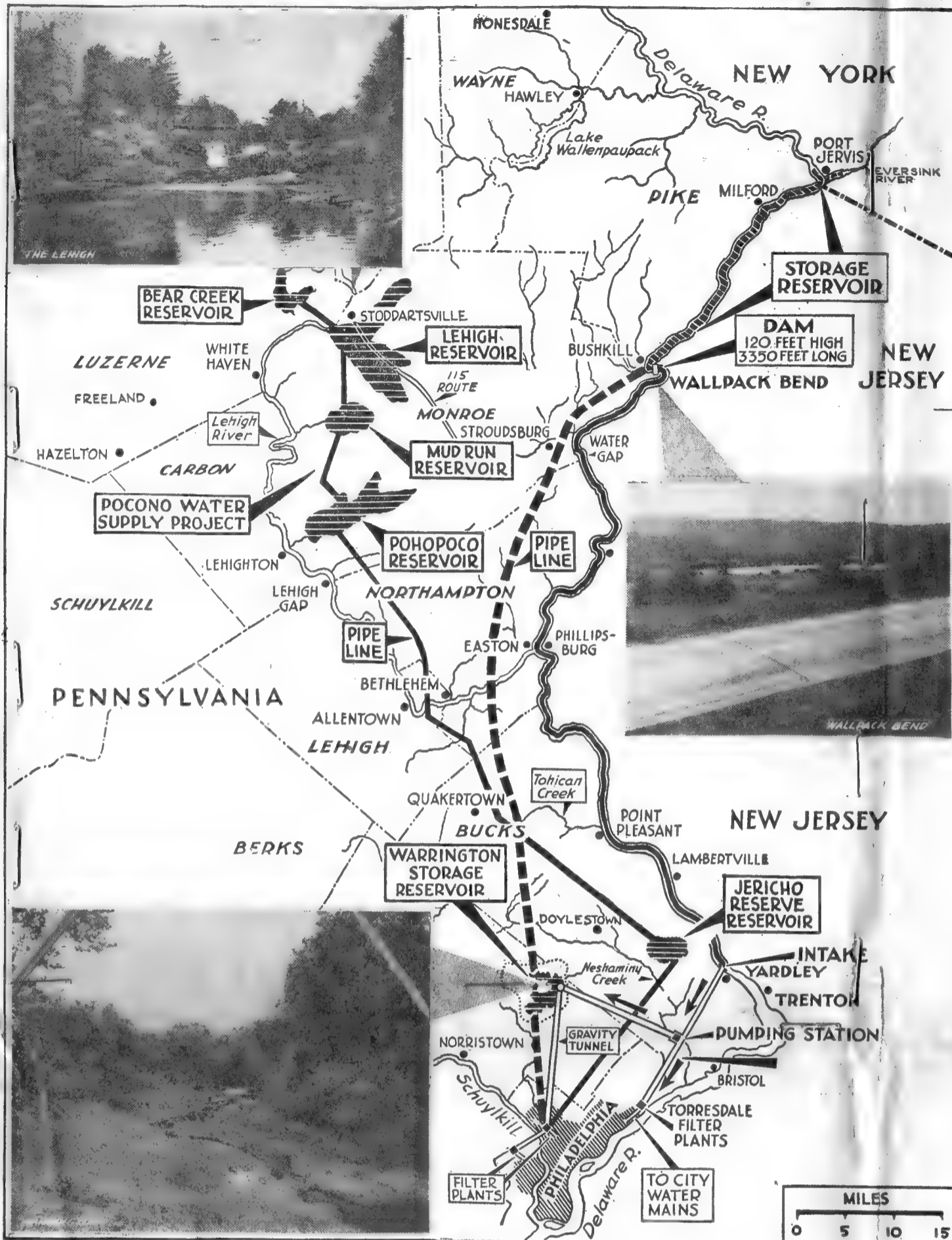
The officials on whom will rest the responsibility for the expenditure of more than two hundred million dollars if a new "upland" water source is to be used, are practical politicians. It is probable they would hesitate to accept the onus of such a program in view of the indifference of the water users—the rewards of their decision are too nebulous, they feel, translated into votes.

EIGHT PLANS ADVANCED

Although some eight plans for a new water supply have been advanced during the hearings, the leading rivals for acceptance are those advanced by the Water Commission engineers and of the Lehigh Coal and Navigation Company.

Also in the front ranks for recognition is the suggestion of the Chamber of Commerce and Board of Trade, which opposes any "upland" source as too expensive. It proposes moving the Delaware River intake further upstream north of Trenton, to eliminate much of the pollution entering below that city.

(Continued Tomorrow)



RIVAL PLANS FOR NEW UPLAND PHILADELPHIA WATER SUPPLY

The above chart presents the two major plans that have been advanced to provide Philadelphia with upland water. The inset pictures illustrate the terrain in the area of the Lehigh Reservoir (upper left), the Wallpack Bend Dam (right center) and the Warrington Reservoir (lower left). The plan using the waters of the Upper Delaware by creating a reservoir 30 miles between Wallpack Bend and Port Jervis, N. Y., is indorsed by engineers of the Philadelphia Water Com-

mission. It offers two means of bringing the water to Warrington: by pressure tunnel (shown in the chart by the broken line) passing near Stroudsburg, and by use of the river to Yardley. The use of the Lehigh River is suggested by the Lehigh Coal and Navigation Company, which proposes four reservoirs on the upper river and a gravity tunnel (shown by the unbroken line) passing near Bethlehem to the Jericho Reservoir east of Doylestown. Eight plans in all have been advanced.

Delaware Plan Faces Series of Fights

Landowners To Oppose Reservoir

Second of a Series

By Richard J. O'Keefe

The Delaware River plan of the board of consulting engineers of the Philadelphia Water Commission seems headed towards a series of legal and legislative complications—not the least of which will be advanced by affected landowners—in the event the board's suggestions are adopted.

Essential parts of the Delaware River project involve creation of a reservoir running 30 miles north from Wallpack Bend Dam to Bushkill to the New York State line at Port Jervis and a storage reservoir at Warrington in Bucks and Montgomery counties.

TWO-FOLD PROPOSAL

The proposal of the engineers is two-fold concerning the method by which the water would be moved from the Wallpack Bend Reservoir to the Warrington Storage Reservoir. The first method would be by means of a pressure tunnel extending nearly 82 miles. The proposal known as the Delaware River Project for purposes of identification will cost an estimated \$284,588,000.

Under the alternate plan, known as the Yardley-Wallpack Bend Project, the engineers suggest that while retaining both the Wallpack Bend Reservoir and the Warrington Reservoir, the water could be dropped down the natural bed of the Delaware River to Yardley north of Trenton. From there it would be moved by tunnel to Warrington. This project, they estimate, will cost \$137,456,000.

SPLITS TWO RANGES

The 30-mile projected reservoir above Wallpack Bend lies in a valley separating two mountain ranges, the Pocono Mountain Range in Pennsylvania and the Kittatinny Mountain Range in New Jersey.

Pennsylvania shares with New York and New Jersey the rights to the Delaware River and the disposition of its waters is regulated by treaties between the three States made in 1873, a Tri-State compact, an amendment of which, according to some authorities, would require approval of Congress and consent of the War Department.

LEGISLATIVE ACTION

Opponents of the Delaware River project and its alternate maintain

legislative action also would be required by three States to repeal the original treaties of 1783.

The Wallpack Bend Dam would back up the Delaware River to the bridge connecting Matamoras in Pennsylvania and Port Jervis in New York and also would create a higher level of water in the Neversink River which joins the Delaware at a point where the boundaries of three States meet at what is known as Tri-State Rock. The reservoir would run about two miles northwestward up the Neversink in New York.

14,000 ACRES NEEDED

For much of the length the reservoir lake would be one-half mile wide and would cover an area of approximately 9500 acres. Of that acreage 4950 would be located in Pennsylvania, 4225 in New Jersey and 325 in New York. Including a 500-foot protective strip along the reservoir lake, it would be necessary for Philadelphia to acquire up to 14,000 acres in the three States.

Of the acreage to be acquired, the engineers estimated that cultivated land would amount to 2686 in Pennsylvania, 1794 in New Jersey and 204 in New York. Uncultivated land, property subject to flooding and land necessary for the 500-foot protective strip would make it necessary for the city to buy an additional 4243 acres in Pennsylvania, 4095 acres in New Jersey and 247 acres in New York.

WOULD FLOOD BUSHKILL

Bushkill, a prosperous summer and winter resort, located opposite the site of the proposed Wallpack Bend Dam, would be almost entirely inundated by the waters of the reservoir. A good portion of Dingman's Ferry, eight miles north, also would be flooded as would a small part of Milford, the largest town between Stroudsburg and the New York State line.

North of Milford the land that would be flooded generally is uncultivated. Below Milford and extending to Bushkill, are summer colonies and rich farm lands, all of which would be inundated. It is along this strip and in Bushkill as well as a corresponding area on the Jersey side of the river that greatest opposition to the reservoir has been advanced.

While property owners on both sides of the river have skeleton organizations that are prepared to carry a strong fight against the condemnation of their land if the project is approved, currently they have adopted a plan of watchful waiting.

Many reflected the attitude evidenced by the indifference of Philadelphians to the public studies and are inclined to doubt that the project will ever get beyond the stage of talk. Should it, however, they indicated their readiness, particularly in New Jersey, to contest agreement of that State to any use of the Delaware River water beyond the limits of the current compacts.

J. Russell Eshback, prothonotary of Pike county, who has extensive farm holdings along the Delaware between Dingman's Ferry and Bushkill, also is skeptical the Delaware River Project will go through. He, at the same time, is prepared to lead the fight of the landowners against it in the courts if that move is necessary.

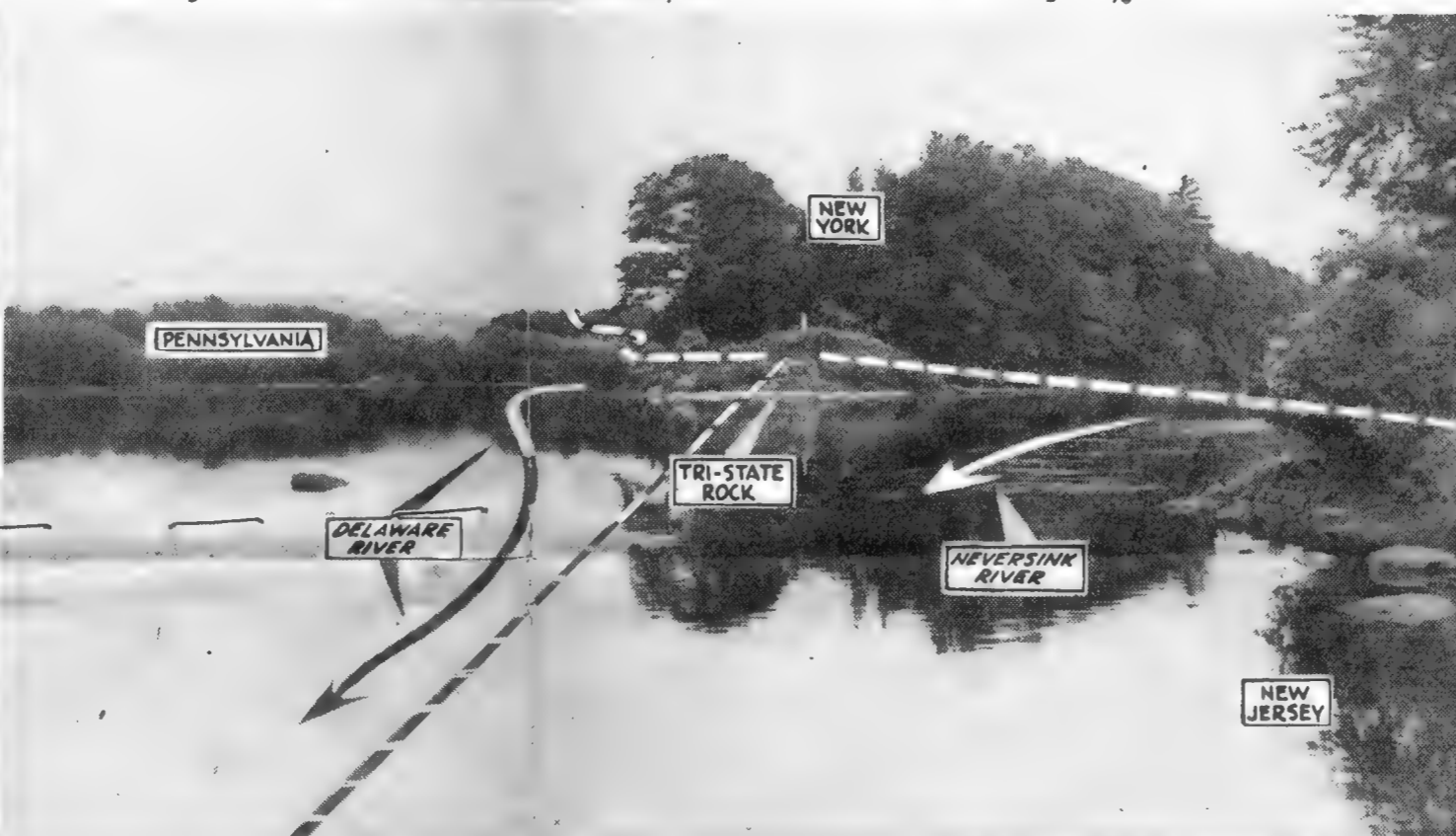
(Continued Tomorrow)



Under plans of consulting engineers of the Philadelphia Water Commission a 30-mile reservoir extending from Bushkill, Pa., to the Tri-State boundary point of Pennsylvania, New York and New Jersey would be created to provide the city with a new water supply. The river level would be materially raised to create

a lake a half-mile wide between the slopes of the Pocono Range in Pennsylvania and the Kittatinny Range in New Jersey. The above pictures the reservoir which would be flooded. The upper left shows a section of Bushkill which would be inundated. To the right is a view of the Delaware Valley that will contain the

backed-up waters south of the New York State line. On the lower left is a section of Dingman's Ferry and the entrance to the bridge over the river to New Jersey. At the lower right is shown the Delaware River at the Tri-State Rock where it is joined on the right by the Neversink River.



TOWNS AND VALLEY ALONG THE DELAWARE RIVER THAT WILL BE FLOODED BY PROPOSED WALLPACK BEND RESERVOIR

CONTRACTS SIGNED BY CITY ARE STEP TO BETTER WATER

Project for Roxborough Reservoir will Remove Silt of 60 Years

OTHER IN PIPE CLEANING

The city took a step today toward lessening the tastes and odors now present in water served in the Roxborough - Chestnut Hill - Germantown-Mt. Airy sections.

One of two contracts totaling \$385,000 signed by Mayor Samuel today is a \$170,000 contract for removing 60 years of accumulated silt from the Roxborough Reservoir which hasn't been cleaned since it was built.

These silt deposits, the Mayor said, have restricted the basin so that the storage period is only one-half of the original period. A longer retention period, the Mayor said, will improve the quality of the water and lessen tastes and odors.

The contract was given to the Eastern Engineering Co., which recently completed a similar job on the Queen Lane Reservoir. A dredge constructed at Queen Lane is being dismantled for transfer to Roxborough. Elbert Taylor, chief of the Bureau of Water, said the transfer of the dredge will take about two months, and the silt removal four months.

In all, 150,000 cubic yards of silt are to be removed and pumped to a site provided by the contractor on the east side of Ridge av., a short distance above the reservoir.

The costs are to come out of \$18,000,000 in loan funds authorized for water works modernization, and will be part of the \$10,500,000 interim program of the Bureau of Water, announced last June 9.

Through this program, the city hopes to eliminate tastes, odors and colors from the city water, pending a decision on the proposed upland sources of supply.

The second contract, with the Centrline Corp., calls for expenditure of \$215,000 and includes cleaning and lining with cement approximately 35,000 feet of 48-inch steel and cast iron pipe lines in Hunting Park av. and Roosevelt boulevard from 5th st. to McMichael st.; in Emerald st. from Tioga to Lehigh; in Kensington av. from Torresdale av. to Tioga st. and in Tioga st. from Kensington av. to Front st.

All existing rust, scale and other deposits will be removed from inside the lines, and a cement lining will prevent further corrosion and remove part of the cause of brown water in the central-city district, the Mayor said.

Wallpack Bend Project Reported Sent To Mayor as Best of Seven Water Plans

Lehigh Offers New Supply From Poconos

Fourth of a Series

By Richard J. O'Keefe

Mountain water from the sparsely settled wooded gorges of the Pocono Plateau is the new supply offered Philadelphia in the proposal of the Lehigh Coal and Navigation Co.

The water would be collected in four large reservoirs, on the Lehigh River, and three tributary creeks of the river. It would then be taken by tunnel, for nearly its entire length by gravity, to a reserve reservoir on Jericho Creek, seven miles east of Doylestown.

When first proposed by the company, the cost of the project was estimated by engineers at \$142,000,000. Water Commission engineers protested this figure was too low, at the same time asserting the source would not provide sufficient water for the future needs of the city.

PROGRAM REVISED

The company then revised its program to enlarge the original plan, raising the estimated cost of the project to \$195,000,000. The Water Commission engineers in opposing the original suggestion of the company declared the source would fall short by 169 million gallons daily of the city's future needs and that the cost should have been estimated at \$240,000,000.

The Lehigh engineers said their revised plan which added a fourth reservoir to the original three in the upper Lehigh basin would provide 445 million gallons daily, sufficient for the city's needs for 75 years.

OWNS MOST OF LAND

The Lehigh project calls for the construction of three reservoirs which are on land almost entirely owned by the Lehigh Coal and Navigation Co. The company proposes to sell to the city 12,000 acres of its land for the reservoir sites and its rights to the sole use of the Lehigh River. The land on which the fourth reservoir on the upper Lehigh would be located is not owned by the company.

The four impounding dams would be located on Bear Creek, at a location 10 miles northeast of White Haven; on the Lehigh, two miles southeast; on Mud Run Creek, seven and a half miles south of the Lehigh Reservoir, and on Pohopoco Creek, near Lehigh, about 10 miles south of the Mud Run Reservoirs.

CALLS FOR GRADE TUNNELS

From Pohopoco, the water would be carried by grade tunnels, less costly than the Delaware River plan type of pressure tunnels, for a distance of 60 miles to the Jericho reservoir. Some sections of the tunnel to Jericho would, however, be of the pressure type to carry the water through unfavorable terrain.

Proponents of the Lehigh plan, which during the public hearings of the Philadelphia Water Commission and of City Council was subjected to strongly critical attacks by the Water Commission's consulting engineers, contend fewer individuals or property owners would be disturbed than would be the case by adoption of the Delaware River plan.

SPARSELY POPULATED

The areas in which are to be located the three northernmost reservoirs, Bear Creek, Lehigh and Mud Run, are not thickly inhabited. There are no villages of material size and the sites are largely covered with timber. The population on the Pohopoco site is slightly greater and a considerably larger portion of the ground is under cultivation.

On the site of the Bear Creek reservoir is located the village of Bear Creek, an attractive summer colony which includes a number of expensive houses. It would be necessary to relocate one mile of the Easton-Wilkes-Barre highway which runs through the village and about five miles of a State highway which parallels Bear Creek.

1600 FT. ABOVE SEA LEVEL

Bear Creek reservoir along with the Lehigh reservoir and Mud Run reservoir would have an approximate elevation of 1600 feet above sea level.

The Pohopoco reservoir elevation will be considerably less than its companion reservoirs, being projected at 665 feet above sea level. From this level, the water will be dropped to an approximate 300 feet above sea level at the Jericho reservoir.

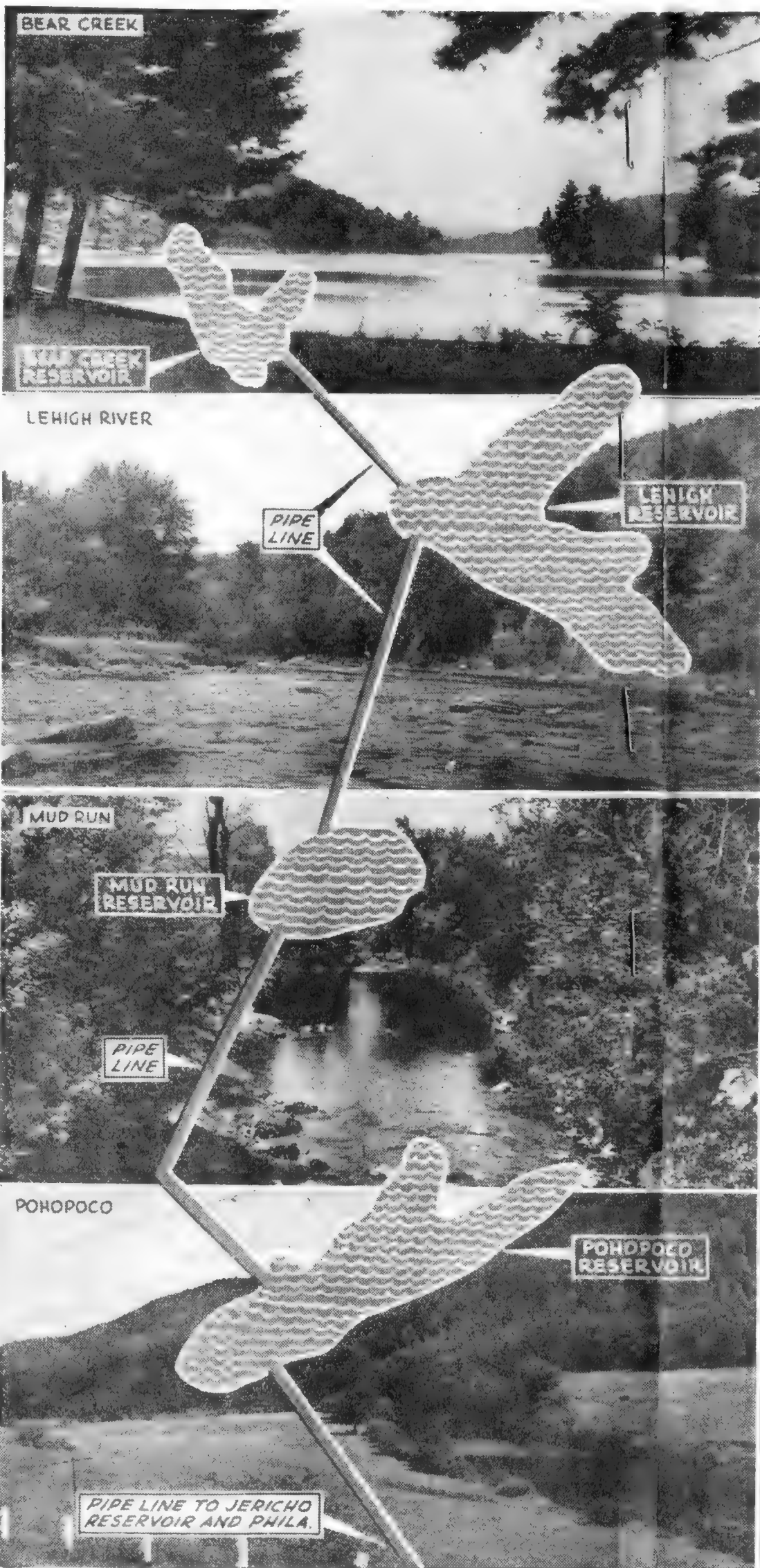
The Lehigh reservoir will be the largest of the four. The reservoir would make necessary relocation of the State highway between Bear Creek and Pocono Lake and between Blakesley and White Haven with a number of other less important roads. The area is mostly timber covered.

SMALL RESORT SECTIONS

While there are no settlements of any size that would be flooded, there are several small resort sections near the reservoir site. One such is Slip Rock Lodge on Lake Harmony, owned and operated by the Lehigh Coal and Navigation Co. This, however, would not be affected by the reservoir.

The site of the Mud Run reservoir is partly owned by the Federal Government and operated as a game preserve. There is practically no habitation or cultivation in the area to be submerged. Although construction would not involve any important highways or communities, relocation of several miles of a secondary road would be necessary.

(Concluded Tomorrow)



FOUR RESERVOIRS OF LEHIGH RIVER PLAN

Mountain water of the Pocono Plateau, north of Mauch Chunk, would be collected in four reservoirs on the Upper Lehigh River under a proposal of the Lehigh Coal and Navigation Co. for a new Philadelphia water supply. The above illustration presents views in the vicinity of the sites of the four reservoirs. Superimposed is the plan for the collecting lakes, the water in each of which would be transferred by pipe line from the Bear Creek reservoir through the Lehigh and Mud Run reservoirs to the Pohopoco reservoir, from which it would be dropped by tunnel to a fifth storage lake on Jericho Creek, east of Doylestown.

Proposal Will Go To Council

A recommendation by the Board of Consulting Engineers, favoring the Delaware River-Wallpack Bend project as a new source of drinking water for the city, has been passed on unofficially to Mayor Samuel by the Mayor's Water Commission as the most promising of the seven projects under consideration, it was indicated yesterday.

The Water Commission met for more than two hours yesterday afternoon, with 13 of its 19 members present, and approved the final draft of its report on a future source of water for Philadelphia. At the conclusion of the meeting, however, no details of its recommendations were forthcoming.

SEVERAL WEEKS DELAY

Samuel H. Rosenberg, secretary to the Mayor and to the Commission, said it would probably be several weeks before the Commission's report was ready for submission to the Mayor. The latter, in turn, will send its recommendations to City Council for action.

Other City Hall sources yesterday, however, predicted that in view of the prohibitive cost of the upland water project, City Council might content itself for the present with rehabilitation of the city's present water system.

500 MILLION GALLONS DAILY

The Board of Consulting Engineers, which made a study of seven projects involving various areas in the Poconos and the Delaware River watershed, recently recommended the Delaware River-Wallpack Bend project, which would cost \$284,588,000 to put into operation and would provide Philadelphia with 500,000,000 gallons of fresh drinking water daily.

The Board also estimated it would cost \$62,568,000 to improve the city's present water system—a task which must be completed regardless of whether an uplands source is chosen. The board's estimate does not include \$18,000,000 already authorized by the voters for the same purpose in 1940.

PUBLIC HEARINGS HELD

Council's Public Works Committee, headed by Councilman Phineas T. Green, held a series of public hearings recently at which all phases of the water supply problem were discussed. Yesterday, Green indicated no meeting of his committee would be held before the Water Commission's report is submitted to the Mayor, nor immediately thereafter.

From this, observers drew the inference that Council, upon getting the Commission's recommendations from the Mayor, might go ahead with its own program. Council a few months ago ordered full speed ahead in revamping the present water system, and at that time authorized the expenditure of about \$10,500,000 in funds remaining from the original \$18,000,000 loan approved by the voters, to finance the work.

PERKIOMEN STUDIED

A subcommittee of the Water Commission, it also was learned yesterday, is studying the practicability of using Perkiomen Creek as a supplementary source of supply, in conjunction with sources in the Poconos or the tributaries of the upper Lehigh River.

Four members of the Commission who attended yesterday's meeting were reported in favor of this proposal. The subcommittee, which might muster a majority if the six commission members absent yesterday vote with it, will meet in two weeks to make its recommendation.

The commission's report as drawn up yesterday, it was understood, will say that if an upland source is decided upon, the most promising one is that at Wallpack Bend. But it was understood that the report recommended strongly that the city proceed to rehabilitate the present water system, and use ozone and activated carbon to correct the taste and smell of the present supply.

TWO CONTRACTS SIGNED

In line with the latter program, the city yesterday signed two contracts for cleaning and relining part of the present storage and distribution system so as to lessen the taste and odor of its drinking water.

One, calling for an expenditure of \$215,000, calls for cleaning and lining with cement approximately 35,000 linear feet of 48-inch steel and cast iron pipe lines in Hunting Park ave., Roosevelt boulevard, and adjoining streets; the other, for \$385,000, involves removing 60 years of accumulated silt from the Roxborough Reservoir, which hasn't been cleaned since it was built.

City Water Puzzle Storage Lake Favored Near Doylestown

Site Indorsed
Site Favored

Last of a Series

By Richard J. O'Keefe

The Upper Lehigh Project for a new Philadelphia water supply discards the idea of a storage reservoir in the rich farmland area near Warrington in favor of a storage lake in the less populated area on Jericho Creek, about seven miles southeast of Doylestown.

A natural bowl, engineers of the Lehigh Coal and Navigation Company, sponsors of the plan, say the proposed Jericho Reservoir can hold a reserve of 57½ billion gallons of water, sufficient for a six-month supply for the city.

30 PROPERTY HOLDERS

On the site of the reservoir there are about 30 property holders. The area of the reservoir would cover 4.3 square miles. Some of the land is cultivated and the balance is timbered.

The reservoir would be created by the construction of two dams across Jericho Creek, one two miles southwest of Brownsburg and the other about one mile east of Pineville.

The maximum height of the main dam, that near Brownsburg, would be 210 feet and that of the dam near Pineville 125 feet. The bowl-like conformation of the land on the site, engineers say, would enable the storage of almost three times the amount of water that could be stored in proposed saucer-like reservoir suggested by the Water Commission engineers.

The right of the Lehigh Coal and Navigation Company to the exclusive use of the water of the Lehigh River was contested during the public hearings.

FIRST GOT RIGHT IN 1822

The Company contends that right was given it by the State Legislature in 1822 and subsequent court proceedings, it holds, cemented its ownership to the river water.

As an adjunct to the Upper Lehigh project, company engineers suggested an additional water supply of 165,000,000 gallons daily could be provided by creating a reservoir on McMichael's Creek near Stroudsburg and using the water of that stream with that of Pocono and Broadhead Creeks.

NO ESTIMATE OF COST

No estimate of cost to construct McMichael's Reservoir was submitted since the engineers do not believe it will be necessary to draw on that supply. The area of McMichael's Creek is heavily populated, with a number of industries and rich farms adding to the cost potential of the site.

A water plan that refuses both the Upper Delaware and the Upper Lehigh as sources of the city's supply has been advanced by the Chamber of Commerce and the Board of Trade of Philadelphia.

COST PUT AT \$116,168,000

A special committee of the organization under the chairmanship of Dr. Ivor Griffith proposes to continue using the Delaware River by moving upstream to a point north of where Trenton sewage enters the river the intake that is now in operation at Torresdale. The cost of this improvement is estimated at \$116,168,000.

The project contemplates the ultimate discontinuance of the Schuylkill as a source for Philadelphia water, elimination of odors and tastes, increased filtering capacity and complete metering of water uses and the extension for 16 miles of the Torresdale Intake to Trenton to eliminate heavy pollution south of that city.

OTHER PROPOSALS LISTED

The program of the organization calls for improvements and changes within the city of existing water facilities and using a cost figure of \$315,791,000 for the Wallpack Dam project for the Delaware River claims a saving of nearly \$200,000,000.

Other proposals for replacing or augmenting the city's present water supply are variations of the Delaware River Project favored by the Water Commission engineers, the Upper Lehigh Project and the plan of the Chamber of Commerce and the Board of Trade of Philadelphia.

DIFFER IN MINOR DETAILS

Some differ in only minor details as does that contemplating the use of the Upper Lehigh and the waters of Perkiomen and Tohickon Creeks with a storage reservoir on Unami Creek near Quakertown.

The Upper Delaware River Basin Tributaries Project provides for the construction of reservoirs on six tributaries of the Delaware which drain the Pocono area. They are the Lackawaxen River and the Shohola, Bushkill, Broadhead, McMichael's and Buckwha Creeks. A reservoir on Unami Creek also is proposed. Water Commission engineers estimate this as the most costly at \$380,250,000.

VERSION OF C. OF C. PLAN

The Delaware River-Yardley Project is a version of the Chamber of Commerce plan. It, however, contemplates the construction of four storage reservoirs on the Perkiomen Creek watershed and one on Tohickon Creek.

Recently, H. S. Spalinski, of Trenton, president of Electric Power Company of New Jersey, Inc., advanced a plan by which his company would undertake to build a series of dams in the Delaware River south of Bushkill and sell Philadelphia whatever water it needed.

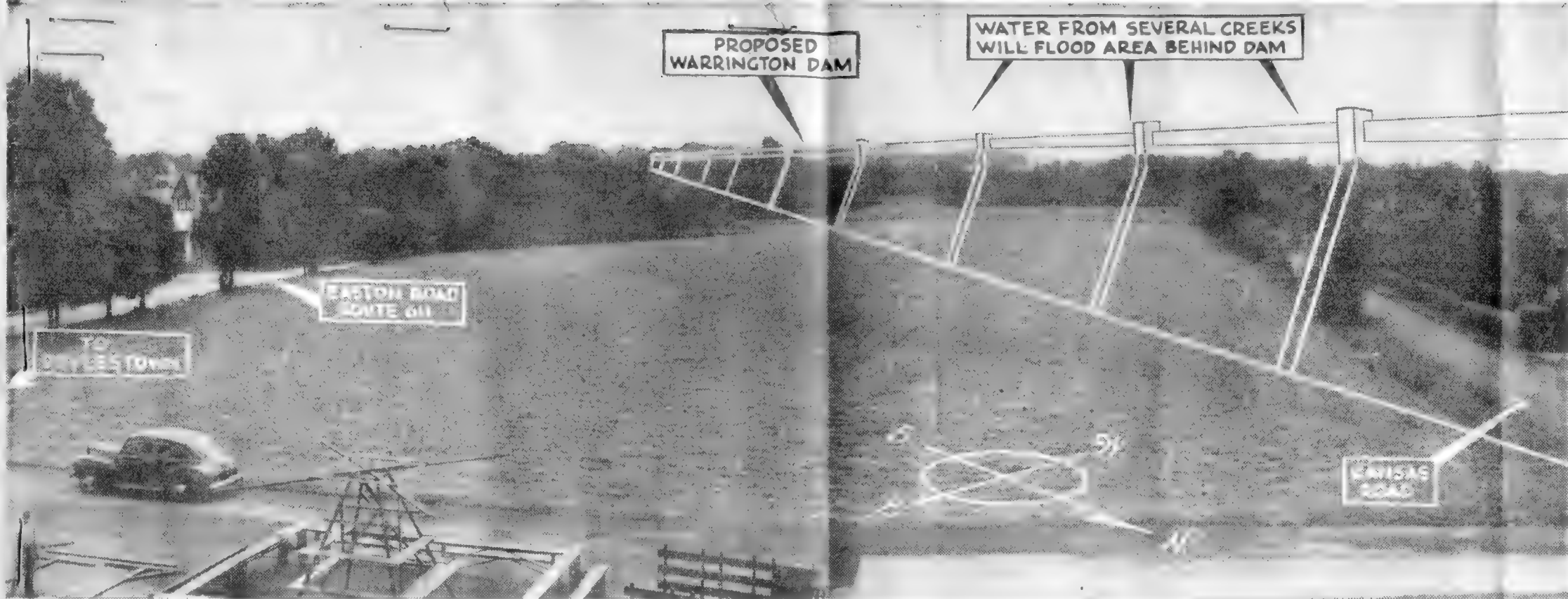
HYDRO-ELECTRIC POWER

The Spalinski proposal also contemplates production of hydro-electric power which it would sell.

He explained his company proposes to finance the project "through the sale of bonds and preferred stock or other securities."

In the event the city adopts his program which calls for a 135 billion gallon reservoir, he said he would give Philadelphia an option to buy the water system from the company.

(The End)



DAM SITE OF WARRINGTON STORAGE RESERVOIR OF DELAWARE RIVER PLAN FOR NEW PHILADELPHIA WATER SOURCE

An integral part of the alternate plans advanced by the consulting engineers of the Philadelphia Water Commission for a new water supply is creation of a 20-billion gallon reservoir near Warrington. The above

illustration shows the area where the northern end of the reservoir dam will be located at Neshaminy. The dam will be west of the Doylestown-Easton highway, Route 611, shown to the left of the picture. The road

will be within the area proposed to be taken over by the city but will not be flooded. The town of Neshaminy located north of the area shown above will be in the path of the spillway to Little Neshaminy Creek.

City's Water Puzzle

Warrington District To Fight Reservoir

Third of a Series

By Richard J. O'Keefe

The alternate plans indorsed by the Water Commission consulting engineers for bringing Upper Delaware River water to Philadelphia provide for a 20 billion gallon storage reservoir near Warrington, 15 miles north of Philadelphia.

This phase of the program has aroused the bitter opposition of hundreds of residents and landowners whose properties would be taken for the reservoir. They, too, have expressed themselves prepared to carry to the highest courts their fight against any effort by Philadelphia to take their holdings.

In order to create the reservoir it would be necessary for the city to acquire 7550 acres of land of which 5260 acres would be in Montgomery country and 2290 in Bucks county. Opponents to the plan in the area declare that more than 1000 properties would be inundated by the reservoir or taken to provide a bordering protective strip.

AGRICULTURAL SECTION
The land that would be acquired is now generally devoted to farming, pasturage and woodland usage. Located in it are a number of moderate residences and several estates, as well as a portion of the borough of Neshaminy. Many of the families have lived in the section for generations.

As in the case in the area of the Wallpack Bend Reservoir relocation of portions of well-travelled highways would be necessary by construction of the Warrington Storage Reservoir.

DAM NEAR EASTON PIKE

The dam creating the reservoir would be constructed just west of Route 611 leading through Doylestown to Easton. It would extend from the northern edge of the U. S. Naval Air Station to Neshaminy, where a spillway into Little Neshaminy Creek would be constructed.

George T. Tetterer, real estate assessor of Warrington township, said the reservoir land represents about one-third of the total assessments of the township.

The Philadelphia Inquirer

WEDNESDAY MORNING, SEPTEMBER 18, 1946 a d g h 29

WOULD DOOM NESHAMINY

Location of the site within the township in addition to dispossessing residents would mean wiping out two public schools, a parochial school, three churches and the village of Neshaminy.

Charles L. Murray, tax collector of Bucks County, declared the reservoir would mean a loss of approximately \$13,000 in taxes and compel upping the taxes for sections not physically affected by the reservoir.

DATE BACK TO REVOLUTION

Edward T. Hancock, a member of the County Board of Commissioners, pointed out that many of the buildings that would be destroyed go back to the Revolutionary period and have been the homes for generations of the same families. He further opposed the site because its selection would force relocation of a number of county roads.

The primary roads that would have to be relocated, in addition to a half-dozen well-kept secondary roads, are Route 152 leading to Chalfont, Route 463 connecting Horsham and Montgomeryville and Route 63 leading to Lansdale. While the Easton road passes over the eastern area of the reservoir land, it would not be necessary to relocate it, since the dam would be to the west.

UNIFIED IN OPPOSITION

Residents in the area of the Warrington Reservoir, unlike those in the area of the 30-mile Wallpack Bend Reservoir in the Upper Delaware, are unified in their opposition.

North of Bushkill, opposite which the Wallpack Bend dam would be built on both sides of the river, there is no unanimity of thought about the proposal.

J. Russel Eshback, prothonotary of Pike's county, heads the opposition on the Pennsylvania side and Frank J. McBride, of Wallpack Center, north of the dam site, is leader of the New Jersey opposition.

SOME LITTLE CONCERNED

But on both sides of the river, there were found property owners who seemed little concerned although their holdings would be completely inundated.

William J. Schoonover, owner of the Bushkill Restaurant, located in the center of the town which would be almost entirely flooded, was agreeable to construction of the reservoir if it would be open for recreational purposes. The commission engineers guarantee continuance of recreational activities on the reservoir if it is built.

NO DIFFERENCE TO HIM

Jeremiah Rosencrans, who for years conducted the only ferry between Bushkill and the Jersey shore until the Army cut his ferry cable, said it made no difference to him, although his farm property, located just north of the proposed dam site, would be entirely flooded.

Rev. Irvin L. Bateman, of Irvington, N. J., director of the Tri-State Bible Conference, located southeast of Port Jervis, favored the proposal on condition that recreational use of the river would be permitted.

(Continued Tomorrow)

A Revised Waterworks Improvement Program

On July 9 City Council, meeting informally, adopted a revised waterworks improvement program to be paid for out of the water loan approved by the voters of the city in 1940. This program provides for improvement of the Belmont, Queen Lane and Torresdale plants, including steps to eliminate objectionable tastes and odors from the water, and to remove manganese from water taken from the Schuylkill River. Completion time was estimated as three years, with taste and odor control fully effective at Belmont in 15 months, and at Queen Lane and Torresdale in six months.

Improvements at the Belmont plant were estimated by the Director of Public Works to cost \$3,722,000. For taste and odor control \$750,000 would be spent for installation of an ozone plant and \$3000 for installation of equipment for treatment of the water with activated carbon. A total of \$2,520,000 is to be used for the completion of the new rapid sand filters now being installed, and for new treatment basins, new chemical and administration buildings, and reconstruction of existing treatment basins. The present rapid sand filters are to be rebuilt, at an estimated cost of \$200,000. The rest of the money is intended to provide automatic postchlorination and automatic corrosion control (\$97,000), and to construct a new high-pressure pumping station (\$152,000).

The approved program for the plant at Queen Lane includes the providing of facilities for treating the water with activated carbon, chlorine, and ammonia, for taste and odor control, at an estimated cost of \$22,500. Water that is to be filtered through rapid sand filters would first receive chlorine-ammonia treatment. The total cost of the improvements at Queen Lane was estimated at \$4,693,500. Of this total, \$1,765,000 is needed for the reconstruction of mechanical filters, and \$2,686,000 for the construction of a new pretreatment plant. Rehabilitation of the mechanical filter beds, minor repairs to the existing building, and installation of new dry-feed equipment are the other improvements scheduled (\$220,000).

Changes at the Torresdale plant were estimated to cost \$455,000. Activated carbon treatment, deemed sufficient for taste and odor control of the better raw water processed at this slow sand filtration plant, requires an installation of equipment costing \$10,000. Additional effluent conduit, automatic chlorinators, a post-treatment building, and new con-

chief of the Bureau of Water, said the transfer of the dredge will take about two months, and the silt removal four months.

The second contract, with the Centriline Corp., calls for expenditure of \$215,000 and includes cleaning and lining with cement approximately 35,000 feet of 48-inch steel and cast iron pipes in Hunting Park Avenue and Roosevelt Boulevard from 5th Street to McMichael Street; in Emerald Street from Tioga to Lehigh; in Kensington Avenue from Torresdale Avenue to Tioga Street and in Tioga Street from Kensington Avenue to Front Street.

All existing rust, scale and other deposits will be removed from inside the lines, and a cement lining will prevent further corrosion and remove part of the cause of brown water in the central-city district, the Mayor said.

nections to the reservoir were expected to cost \$445,000.

City Council is awaiting a report from the Philadelphia Water Commission before making a decision on a long-range program. This report, which will be based upon extensive studies made by the Commission's Board of Consulting Engineers, is expected within the next few weeks.

Meanwhile, the city took a step last week toward lessening the tastes and odors now present in water served in the Roxborough - Chestnut Hill-Germantown-Mt. Airy sections.

One of two contracts totaling \$385,000 signed by Mayor Samuel is a \$170,000 contract for removing 60 years of accumulated silt from the Roxborough Reservoir, which hasn't been cleaned since it was built.

These silt deposits, the Mayor said, have restricted the basin so that the storage period is only one half of the original period. A longer retention period, the Mayor said, will improve the quality of the water and lessen tastes and odors.

The contract was given to the Eastern Engineering Co., which recently completed a similar job on the Queen Lane Reservoir. A dredge constructed at Queen Lane is being dismantled for transfer to Roxborough. Elbert Taylor,

Upland Water Source Is Virtually Doomed Because of High Cost

This is the 11th in a series of reports to the people of Philadelphia, presented by The Inquirer from time to time on the progress being made on post-war improvements.

The three elements of the ancients—air, water and fire—provided the top news in Philadelphia's post-war improvement program during September.

Mayor Bernard Samuel highlighted the air program by disclosing for the first time complete details of a \$13,500,000 master plan for improving Southwest Airport.

As for water, City Council virtually doomed immediate development of new upland water sources for the city because of prohibitive costs, estimated as high as \$500,000,000. Instead, Council was pressing its \$10,000,000 program to improve treatment of water from present sources in the Delaware and Schuylkill.

The fire news came when William F. Cowden, chief engineer of the Bureau of Fire, confirmed the exclusive disclosure by The Inquirer that he would retire on Jan. 1, throwing at least a temporary block into extensive improvement plans for the bureau.

There continued to be plenty of fire, too, over the city's announced \$250,000,000 increase in assessments, cooled only slightly by the announcement that individual increases would be limited to 25 percent.

Major developments in the city's program during September follow:

WATER

The Inquirer, during September, printed an extensive series of articles on the various proposals for new Philadelphia water sources along the Upper Delaware or in the Pocono watershed of the Lehigh.

The various plans have been under study by Mayor Samuel's Water Commission for more than a year. Although its recommendations have not yet been submitted, the commission is reported to favor the Wallpack Bend project, estimated to cost \$284,588,000. It would supply the city with 500,000,000 gallons of water a day.

However, Council members generally were agreed that the city could not expend this sum at the present time. The alternative is the present program to improve the treatment of water, particularly from the Schuylkill, by new filtration methods and rehabilitation of the Queen Lane and Torresdale pumping stations.

The Chamber of Commerce and Board of Trade recommended that the city move its Delaware River intake as far as Trenton, where less polluted water can be obtained. This would be carried to the Torresdale pumping station through a 16-mile conduit.

Bids were opened for a new booster pumping station at Fox Chase and a \$385,000 contract was let for cleaning the Roxborough Reservoir.

The State's "pure stream" drive was advanced with acquisition of the 90-mile Schuylkill Canal. Attorney General James H. Duff, Republican candidate for Governor, disclosed that 70 percent of Pennsylvania's collieries already have eliminated or have reduced depositing of mine culm in the Schuylkill.

Anti-Pollution Laws In Pa. Date Back Sixty Years

In the early history of the state, little attention was paid to contamination of waterways, but with the growth of population, the urbanization of communities, and the development of industries, the dangers of stream pollution became apparent and remedies were sought in the courts and through legislation.

For the last sixty years the courts of Pennsylvania have held, under the common law, that discharges into streams of mine water, which include slit and acid mine water, do not constitute abatable nuisances. The courts have indicated that the major industry of the state must not be hampered because of a nuisance to others. Occasionally, however, they have enjoined the discharge of other industrial wastes into a stream used by the public.

The first statute on stream pollution, the Act of June 24, 1895, merely prohibited the use of land for burial purposes within prescribed distances from streams. The Act of April 22, 1905, was more general in application. It sought to preserve the purity of waters by requiring state approval of the source for a public water supply and state permission for the discharge of sewage into a stream. In effect, this act allocated some sources for public water supplies and others for sewage disposal. It might be termed a 'permissive use' statute rather than

one for positive elimination of stream pollution. The act, moreover, excepted from its provisions water from mines and tanneries, thus giving legislative sanction to coal mine and tannery discharges into streams.

Two recent Pennsylvania statutes (Acts of June 22, 1937, and May 8, 1945) empower the Sanitary Water Board of the State Department of Health to compel municipalities and industries to erect satisfactory treatment plants for their sewage and water discharges. The later act prohibits discharge of coal mine culm and provides that acid mine water may not be discharged into 'clean streams.' Its definition of 'clean streams,' however, is rather vague. Moreover, it requires the state to provide diversion corridors in ordering discontinuance of acid mine water discharges. Administrative difficulties may therefore be encountered in enforcing this prohibition.

Pollution control of the Delaware River is dependent in part upon interstate cooperation and the enforcement by New York, New Jersey, and Delaware of their

own anti-pollution laws, which in general, are not as rigid as Pennsylvania's. The Interstate Commission on the Delaware River Basin (Incodel) is an agency whereby such cooperation and standardization of laws may be promoted.

Early federal statutes, such as the Federal Rivers and Harbors Act of 1899 and the Oil Pollution Act of 1924, were directed chiefly at discharges which obstructed navigation. However, a bill (H.R. 6024), introduced in the last session of Congress but not passed, would extend federal jurisdiction to deal also with health-menacing stream pollutions. This indicates that the problem has grown from one of local to one of national concern.

PHILADELPHIA DISPATCH,
SUNDAY, NOVEMBER 3, 1946

Upland Water Supply Plans Shelved by Official Report

THE EVENING BULLETIN, Phila., Tues., Nov. 12, 1946

Action First on Bettering Local Source

Improvement Program in Two Stages; One is Already Under Way

Plans for a \$284,588,000 upland water supply for Philadelphia will be kept in abeyance until all means of improving local sources are exhausted.

That much was made clear today by the long-awaited final report of the Mayor's Water Commission, and by Mayor Samuel's subsequent remarks.

Herbert W. Goodall, chairman, in presenting the report, told Mayor Samuel that the city, in his opinion, can have upland water "if they want to pay the bill."

"It will cost a lot of money and there will be legal complications of all kinds," Goodall said. "Against that, the city may find that its present supply can be made adequate for all time."

Praises Commission's Work

Mayor Samuel, in accepting the report, lauded the commission for its work and said he will submit its report to City Council at once. With its work completed, members of the commission, through Goodall, then presented their resignations.

The Commission, appointed May 22, 1945, brought in definite recommendations for an improvement program in two stages. The first of these, costing between \$10,000,000 and \$12,000,000, is under way. Cost of the second stage is estimated at \$62,568,000.

The Commission reported that the controversial Delaware River project, in which water would be impounded 95 miles north of the city at Wallpack Bend, would tap the best of all proposed sources.

Nevertheless, the Commission recommended a start only on local improvements, designated Stages A and B. Time, expense, and legal obstacles stand in the way of the more ambitious proposal, the Commission said.

Want Site Pre-Empted

"In this connection," said the report, "we urge that the Mayor order City Solicitor Frank F. Truscott and Special Counsel Frank B. Murdoch to take immediate steps to pre-empt the Wallpack Bend site for Philadelphia's use to forestall such action by others."

Both construction stages are necessary for a mountain source of supply—"when and if such a plan is adopted," the Commission said.

Mayor Samuel, noting that he had ordered a start upon the first stage, made only passing reference to an upland water source.

"I took such action because it was imperative that the city's water system be rehabilitated," the Mayor said, "regardless of any subsequent decision to be made by city authorities which would ultimately result in the establishment of an upland water supply source."

"I assure everyone that the City Administration will do everything within its power to carry into execution the recommendations presented here today—Stages A and B for the improvement of the local sources of supply."

Quick Completion Urged

The Commission, in urging quick completion of the first construction stage, added: "We recommend the treatment of our present water by whatever agent or agents are found

(Continued on Page Two, Column Six)

Water Report

(Continued from the First Page)

necessary to remove the taste and odor."

The Mayor said: "I would like to emphasize that a few days ago bids were opened for furnishing and installing ozonation equipment at the Belmont filter plant. This is one of the major items authorized for the elimination of tastes and odors in the existing water supply."

This installation, the Mayor said, will handle 36,000,000 gallons daily, making it the largest of its kind in the country. Delivery of equipment, he said, will require at least a year.

"If ozone treatment is a success at Belmont, it will be extended to all the city's filter plants," he added.

Based on Two Reports
The Commission's report was based on two voluminous reports by its Board of Engineers, for whose work the city appropriated \$135,000. Four redrafts of the original Commission report were required, it is understood. The last one added material on the legal difficulties connected with the Wallpack Bend reservoir and dropped some references to the quality of the present sources.

In general, the Commission has followed the recommendations of the Bureau of Municipal Research, which, at public hearings, urged that all possible methods of eliminating taste, odor and color from present sources be tried before embarking on an upland project.

The Commission took note of one of the principal objections to the Delaware River project—the cost of an 80-mile tunnel through rock from Wallpack Bend to the proposed Warrington reservoir. This tunnel, the Commission said, would cost \$155,109,000, about half the cost of the entire project.

Legal Aspects Discussed

Dealing with the legal aspects of Wallpack Bend, the Commission remarked that agreements would have to be made with New York and New Jersey, since the 30-mile reservoir would fringe upon their domains.

"It is likely that the approval of Congress and the United States Supreme Court would also have to be obtained before work on this project could begin," the report said.

"More serious is the question

whether the states of New Jersey and New York could, under their respective constitutions, grant to Philadelphia or Pennsylvania power to condemn the land in these states needed to construct Wallpack Bend Reservoir, or even condemn such land for the benefit of Philadelphia or Pennsylvania," the report added.

"If, for legal reasons, the Wallpack Bend project proves impractical and the city desires an upland source of water, it will be necessary to select a source within this Commonwealth."

Lehigh Plan Rejected

One of these was proposed by the Lehigh Coal and Navigation Co., which owns extensive lands and water rights on the Upper Lehigh river. The Commission's engineers rejected this because they said the yield was too small, that filtration would be required and that the costs were underestimated.

Later, a public hearing was held on this proposal, as a result of which the Commission said it went into the project very thoroughly and decided that the plan "was not the one which would best serve the interests of the city as an upland source."

During the existence of the Commission, two city Directors of Public Works who are members, have died—John H. Neeson and Martin J. McLaughlin. Ernest V. D. Sullivan, the original chairman, died, too. He was succeeded by Goodall, who also is president of the Tradersmen's National Bank and Trust Co.

Two Contracts Awarded
Meantime, the Department of Public Works announced the awarding of two contracts furthering the improvement to the water supply system.

One is for a pump foundation and piping connections for the Queen Lane temporary pumping station, which was awarded to James N. Driscoll for \$27,700. The other is for plumbing installations at the Fox Chase booster pumping station. It was awarded to Edward F. Roberts for \$8,200.

Two contracts still under investigation by the department are for ozonation equipment at the Belmont filter plant and electrical equipment for the temporary pump house at Queen Lane.

Final Water Report

THE Mayor's Water Commission, which has published two voluminous reports of its Board of Consulting Engineers, now publishes its own first and final report.

By this time, however, the Commission is no longer leading the parade. Its first recommendation, improvement of water from present sources, is no more than an approval of decisions already made by City Council.

The second recommended step, taking a larger proportion of water from the Delaware and the possible abandonment of the Schuylkill except for reserve purposes, does not involve any commitment to distant new sources.

The Commission still feels that Delaware water at Wallpack Bend is the best source, though it has apparently become more acutely aware that legal obstacles exist. That the water at Wallpack Bend is better than the water at the present city sources no one would deny; but it has always been a weakness in the Commission's position that it placed heavy emphasis on comparison of raw waters rather than on the quality of water that could be delivered to consumers after treatment for impurities, tastes and odors.

Nevertheless, the Commission's recommendation that the city preempt Wallpack Bend rights deserves consideration. The future may see Philadelphia reaching to new sources not so much to get better water as to get a greater quantity than can be taken from present sources.

Rehabilitation of System Stressed in Water Report

Plans Urged To Improve Taste, Odor

A three-point program, with emphasis on plans to improve immediately the taste and odor of the city's present drinking water, was recommended yesterday in the Water Commission's final report on a future water supply for Philadelphia.

In submitting the report to Mayor Samuel, the commission urged that steps one and two, rehabilitation of the present system, be completed first and if it is then necessary to obtain water from an upland source that the Wallpack Bend, a point in the Delaware River near Bushkill, Pa., be utilized.

COMMISSION'S PROPOSALS

The commission proposed:

Immediate overhauling of the filtration and distribution systems and installation of additional chemical treatment to eliminate taste and odors. Part of this work is already under way.

A long-range program of improvement and additions to the present water system, including the taking of a larger proportion of the water supply from the Delaware River and increased storage facilities.

'BEST SOURCE OF WATER'

Utilization of Wallpack Bend as "the best source of water" in the event the city decides to go to an upland source for its future supply. The estimated cost of this project is \$284,588,000.

In accepting the report, the Mayor asserted the survey "will be a chart for many years to come regardless of whether the city receives its water from an upland source or whether it shall continue to flow through our mains from the present sources after they have been improved."

FIRST STEP IN PROGRAM

The first step of the program, involving the expenditure of about \$12,000,000, contemplates the installation of chemical treatment equipment as quickly as possible. The report explained that this must be done regardless of what source of supply was finally chosen.

Mayor Samuel, in his acceptance speech, said this phase of the work was well under way, adding that contracts totaling several millions of dollars have been awarded to install new equipment at various pumping stations.

BIDS ARE OPENED

He also pointed out that bids were opened a few days ago for installing ozonation equipment at Belmont filter plant, explaining that ozonation is one of the major methods used to eliminate obnoxious odors and tastes in water.

The second step, a long-range program, would bring the present water works to the peak of efficiency to supply Philadelphians with pure, palatable water, in the opinion of the commission.

\$62,568,000 EXPENDITURE

This part of the program would require the expenditure of \$62,568,000, which, the report explained, could be financed by increasing the average householder's water bill 13 percent.

Should the Schuylkill be abandoned as a source of water, the commission warned, the additional cost of delivering Delaware River water from Torresdale to Belmont and Queen Lane filter plants would increase the cost \$25,000,000, necessitating a 23 percent increase in water rents instead of 13 percent.

Partial Text of Commission's Report on City's Water Supply

Following is the partial text of the final report of the Mayor's Water Commission, issued yesterday.

On March 6, 1945, the Hon. Bernard Samuel, Mayor of the City of Philadelphia, seeking a solution to Philadelphia's problem—of water supply—created the Philadelphia Water Commission and gave it a two-fold assignment.

1. To study the question of improving the present source of supply of drinking water.

2. To study the sources of water supply outside the City in the upland and mountain regions and to recommend the source which would best serve the City's needs.

This Commission respectfully submits to the Mayor, City Council and the citizens of Philadelphia these recommendations:

That the City commence immediately a program of improvement to its present water system to be divided into three stages:

Stages of Program
(A) That the present plan outlined by the Bureau of Water at the Mayor's request and endorsed by City Council, which includes the rehabilitation of the filtration and distribution systems and the installation of additional chemical treatment to eliminate taste and odors, be completed as rapidly as possible. This program it is estimated would entail a cost of from \$10 to \$12 million and can be started immediately and completed within

out delay as funds are already available.

(B) That a long range program of improvement and addition to our present water supply system be started after "A" is completed and its results carefully studied and analyzed. This program to include the taking of a larger proportion of our water supply from the Delaware River, the addition of increased storage, filtration and chemical treatment.

It is possible that this program will include the abandonment of the main channel of the Schuylkill River as a source of supply, except for reserve purposes.

(C) That the best source of water, in the opinion of this Commission, is the upper Delaware River at a point known as Wallpack Bend, near Bushkill, Pa.

The reasons for this decision are treated at length later in this report. It is quite clear to the Commission, in considering obtaining a supply of upland water for the City of Philadelphia, that this source would be a great improvement over our present sources or any other source considered. However, the delays incident to obtaining such a source, the completion of dams and conduits, the interstate complications, the possible legal obstacles and the capital outlay involved, lead the Commission to recommend at the present time the improvement of present sources as outlined in (A) and (B).

Would Take Action At Once
In this connection we urge that the Mayor order City Solicitor Frank F. Truscott and Special Counsel Frank B. Murdoch to take immediate steps to pre-empt the Wallpack Bend site for Philadelphia's use to forestall such action by others.

The merit of adopting this three-point program, in our opinion, is that each dovetails with the other. Stage A is necessary before Stage B could proceed. And both are necessary—with relatively minor adjustments—for an upland source of supply, when and if such a plan is adopted.

We base these conclusions after a long and careful study by members of this Commission and by a board of consulting engineers, composed of the top men in this profession in the country.

We will endeavor to explain in the following paragraphs the steps taken to arrive at these recommendations.

First was the setting up of the Commission itself. To this body, Mayor Samuel appointed men who represent a cross-section of Philadelphia—labor, industry, finance and leaders in civic and communal life.

After a careful study of the qualifications of many candidates we chose the following men for our board of engineers:

Charles A. Emerson, of the firm of Havens & Emerson, New York; Gustav J. Requardt, of Whitman, Requardt & Associates, Baltimore; Francis S. Friel, of Albright & Friel, Inc., Philadelphia; Joel D. Justin, Philadelphia; and Nathan B. Jacobs, of Morris Knowles, Inc., Pittsburgh.

Subsequent meetings of the Commission were held on June 29, 1945; November 29, 1945; December 11, 1945; December 20, 1945; January 15, 1946; January 25, 1946; January 28, 1946; February 11, 1946; March 12, 1946; March 29, 1946; April 8, 1946; April 22, 1946, and May 1, 1946.

The Board of Consulting Engineers entered into an agreement with the City of Philadelphia

under which they agreed to perform their difficult and important assignment for a combined fee of \$135,000. This contract was ratified by City Council, which passed an ordinance appropriating funds for this work.

Task Given Engineers
The task given to the Board of Engineers was divided into two parts:

PART 1
A reconnaissance, preliminary study and preliminary report to determine the upland source of water which would be the most desirable for the City of Philadelphia. The sources checked were to be those known as:

- (a) The Delaware River-Yardley Project.
- (b) The Upper Lehigh Basin Project.
- (c) The Upper Delaware River Basin Tributary Project.
- (d) The Upper Delaware River Project-Tock's Island.

(Note: Two additional projects were added by the engineers to their original study—the Lehigh-Pocono project and the Yardley-Wallpack Bend project. These two studies were made in order to make the search for a water source for Philadelphia as exhaustive as possible. The Tock's Island project, listed above, was found by the engineers to be not feasible as a source of supply, so a project was set up whereby water at Wallpack Bend was used instead.)

- Work on Part 1 involved:
- (a) Review of past reports.
 - (b) Collection of all available data.
 - (c) Rainfall and run-off studies.
 - (d) Reconnaissance of dam and reservoir sites and conduit routes.
 - (e) Geological investigations.
 - (f) Inspection trips by consultants.
 - (g) Collection of water samples for chemical, mineral and bacteriological analyses.
 - (Costs of these analyses to be borne by the city.)
 - (h) Office studies by consultants and their assistants.
 - (i) Preparation of preliminary maps, profiles and other exhibits.
 - (j) Preparation of reports.

PART 2
(a) Study and investigation of existing water supply of the City of Philadelphia and contemplated improvements.

(b) Effect of the construction of proposed sewage treatment and industrial waste treatment facilities on the existing water sources.

(c) Final recommendation of the best possible upland water supply after the following studies are made:

1. Instrument surveys.
2. Sub-surface explorations.
3. Construction cost estimates.
4. Hydro-electric and multi-use studies.
5. Appraisal and estimates of cost of land and water rights.
6. Capital and operating costs.
7. Effect of interstate rights as they might apply to present and future upland sources.
8. Comparison of present and future water costs.

Under the contract with the Board of Engineers the City promised to make available all records and reports in its possession, to furnish legal services, and to pay directly for the following work:

- (a) Instrument surveys of dam sites.
- (b) Sub-surface exploration including borings.
- (c) Laboratory analyses and tests including water, soils and other materials.
- (d) Real estate and rights-of-way appraisals.

These studies were to be made with this all-important objective in mind:

Look Ahead to 2000 A. D.

To find the best plan for bringing a safe and palatable water supply to the people of Philadelphia.

First, the Board of Engineers computed the volume that would be needed to supply the city by the year 2000, in view of the probable growth. This amount was fixed at 500,000,000 gallons per day.

With this goal they started their study. After more than a year of painstaking work, the Board of Engineers decided that the best upland source was that at Wallpack Bend, an opinion which this Commission endorsed.

How They Reached Decision
Following is a brief resume of how the Board of Engineers reached this decision:

First a series of 19 sampling stations were set up on streams ranging in size from Mud Run to the Delaware River. They included: The Lackawaxen, the

Delaware, Bushkill Creek, Broadhead's Creek, McMichael's Creek, Pocono Creek, the Lehigh River, Mud Run, Neshaminy Creek, Tohickon Creek, Perkiomen Creek and the Schuylkill River. In addition, 20 sub-stations were set up at various points for water color determination. Samples of water were taken for 10 consecutive weeks so that tests would be made under every possible condition: flood stage, low tide, after rain, drought, etc.

Samples were analyzed for total bacteria: B. Coli bacilli (bacteria identified with human sewage); hardness of water; color; amount of free oxygen; turbidity (muddiness), sediment, etc.

Borings were made at appropriate locations to determine foundation conditions available for dams, spillways and other installations. When the results were tabulated and the studies analyzed, the engineers found that the source which would supply the best water in the volume needed at the lowest cost was Wallpack Bend.

Description of Project

The following is a brief description of the Wallpack Bend Project as developed by the Board of Consulting Engineers:

It proposes construction of an impounding dam in the northeasterly course of the great "S" curve of the Upper Delaware River at Wallpack Bend; a conduit consisting of a concrete lined pressure tunnel, deep in ledge rock which will deliver water by gravity to a regulating reservoir to be constructed near Warrington, Pa., with another tunnel delivering water—also by gravity—to the side of the Queen Lane filtration plant for purification.

Cost of the Project

Cost for this project, as estimated by engineers, would be \$284,588,000. Of this amount, \$243,151,000 represents cost of land damages, construction of dams, aqueducts, reservoirs and other facilities needed to bring the water to the site of the existing Queen Lane filtration plant. The remaining \$41,437,000 is the cost for purification facilities and distribution connections within the city. (Costs estimated as of January 1, 1946.)

Financing and operation of the Wallpack Bend project and improved water system would cost \$14,735,000 a year. Our present average annual revenue from water rents is \$7,300,000. This means we would need an additional \$7,435,000 each year for the new system—roughly about a 102 percent increase in water revenue roughly doubling water charges.

It is the opinion of this commission that a system of universal metering should be adopted for a reduction of cost by elimination of needless waste. At present, water meters are provided for only about 50 percent of the city's domestic consumers.

Wallpack Bend Dam, Reservoir

The engineers' plans call for construction of a concrete dam 170 feet high and 1850 feet long across the river at a spot near Bushkill, Pa. This would form a lake one-half mile wide and 30 miles long, extending upstream to Port Jervis, N. Y. This reservoir will provide available storage capacity of 91,500,000,000 gallons. This dam would retain flood waters in the winter and spring to make up for deficiencies in the dry summers. It would thus provide waters for releases to maintain the natural river flow in dry periods and for domestic consumption.

Reconnaissance of the surrounding area has indicated that enough construction material can be quarried in the near vicinity. Twenty-two control gates will be built capable of discharging 240,000 cubic feet of water per second without rise of headwater elevation at the dam.

This flow is substantially in excess of the highest flood flow on record in this vicinity.

On the New Jersey side of the dam, provision is made for penstocks or flood gates leading to a possible future power plant. It is estimated that a plant could be built at this site with a total capacity of 31,000 kilowatts. Approximately 151,200,000 KWHRS could be available in the average year. This could be accomplished without interfering with the 500,000,000 gallons a day supply passing through the outlet tower for the City of Philadelphia.

Could Be Used for Power

A conservative estimate is that this water power privilege could be leased to a power company for approximately \$39,500 a year.

The total area that will be inundated by the lake will be about 9500 acres, of which 4950

acres are in Pennsylvania, 4225 acres in New Jersey, and 325 acres in New York. Of the 13,000 to 14,000 acres to be acquired, approximately 4680 acres are under cultivation.

The construction of the Wallpack Bend Reservoir would not exhaust water supply possibilities of the Upper Delaware. Ample supply would be available for the States of New York and New Jersey. The high flows of the river are so great that additional water supplies of total volume exceeding Philadelphia's contemplated take could be provided by construction of other storage reservoirs on the Delaware or on one or more of its tributaries in Pennsylvania or New Jersey.

Warrington Reservoir:

The water would be brought from Wallpack Bend to a storage or "regulating" reservoir at Warrington, Pa., a distance of about 65½ miles through a pressure tunnel built deep in ledge rock lined with concrete, and 15½ feet in diameter.

The Warrington reservoir would be built on one of the tributaries of Neshaminy Creek and, with marginal protective strips, would require about 7550 acres of land in Montgomery and Bucks counties.

This area at present consists of improved properties, farms, woodlands and pastures. There are no railroads in the area. A high tension electric line crossing part of the reservoir area will have to be raised.

From the Warrington reservoir the water will be carried 15½ miles to the new rapid sand Queen Lane filter plant which it is proposed be built.

The tunnel from Wallpack to Warrington will cost approximately \$155,109,000, about half the cost of the entire project.

Legal Aspects

Since the Wallpack Bend project contemplates the building of a dam across the river into New Jersey, and since the waters of the Delaware which will be diverted are contiguous to that State, New York as well as Pennsylvania, agreements would have to be made with these neighboring States. It is likely that the approval of Congress and the United States Supreme Court would also have to be obtained before work on this project could begin.

More serious is the question whether the States of New Jersey and New York could, under their respective constitutions, grant to Philadelphia or Pennsylvania power to condemn the land in these States needed to construct the Wallpack Bend reservoir or even condemn such land for the benefit of Philadelphia or Pennsylvania. This because of the principle that the power of eminent domain can only be exercised or granted by a State for the use of its own residents.

If, for legal reasons, the Wallpack Bend project proves impractical and the City desires an upland source of water, it will be

necessary to select a source within this Commonwealth.

Turn Down Lehigh Proposal

On December 11, 1945, the Lehigh Coal and Navigation Company, which owns extensive lands and water rights on the Upper Lehigh River, submitted to this Commission a program to tap this stream and tributaries for an upland supply for Philadelphia. Our engineers had already considered the same source, but in fairness to the company, they were asked by the Commission to make a thorough study of Lehigh's proposal.

At an open hearing on January 15, 1946, a number of engineers testified in behalf of the Lehigh plan. . . .

Our Board of Consulting Engineers made an exhaustive study of Lehigh's report and testimony and came to the same conclusion they had made after their own independent survey of the Upper Lehigh source, namely that it would be unwise for the City to take such a course.

The Commission felt it was in the public interest to examine fully the plans of the Lehigh Coal and Navigation Company, and another public hearing was scheduled for January 28th.

At this time Sen. Geo. Wharton Pepper presented additional witnesses and filed a brief with this Commission. At subsequent meetings the Commission went into the Lehigh Coal and Navigation matter very thoroughly and decided that the Lehigh Coal and Navigation's plan was not the one which would best serve the interests of the City as an upland source.

Improvement of Present Sources

Prior to the preparation of this report, numerous caucuses were held, attended by the Philadelphia Water Commission and City Council. From the facts developed by the Philadelphia Water Commission, City Council and the Mayor instructed the Bureau of Water to proceed immediately upon a program to eliminate taste and odors from our present drinking water.

Belmont Filter Plant: A carbon pre-treatment plant, to be finished within six months, \$3000; an ozone plant, minimum time for construction 15 months, \$750,000; revision of piping, installation of automatic post-chlorination and corrosion control, \$97,000; moving of high-pressure station to a new location at 52d st. and Parkside ave., \$152,000; reconstruction of rapid sand filters, \$200,000; construction of a new rapid sand plant, \$2,520,000.

Queen Lane Filter Plant: Carbon feeding equipment, \$6000; chlorine solution line, \$4500; equipment and piping for ammonia application, \$12,000; rehabilitation of mechanical filter beds, \$170,000; new dry feed equipment, \$100,000; new pre-treatment plant, to be completed in about two years, \$2,686,000; reconstruction of mechanical filters, to be completed in three years, \$1,765,000.

Torresdale Filter Plant: Car-

bon feeding equipment, \$10,000; additional effluent conduit and automatic chlorinators, \$335,000.

In addition we recommend the treatment of our present water by whatever agent or agents are found necessary to remove taste and odor.

Would Proceed to Next Stage

As Stage A proceeds we urge a careful study be made of its results and as soon as deemed advisable, a more extensive improvement program of our present system be started. This should be a long-range program, which would bring our present water works to the peak of efficiency needed to supply our citizens with pure, palatable water.

According to our engineers such a program would cost about \$62,568,000 which could be financed by an increase of 13 percent in our current water revenues.

In the event, however, the Schuylkill River be abandoned as a source of water supply, the added investment necessary to deliver Delaware River water from Torresdale to the Belmont and Queen Lane filter plants would increase construction costs by approximately \$25,000,000 making a total of \$87,568,000.

This would mean a 23 percent increase in water revenue, instead of the aforementioned 13 percent.

This program would include the following salient features:

1. Universal metering of all consumers at a cost of \$6,000,000.
2. Construction of roofs over the Georges Hill, Oak Lane and East Park reservoirs and additions to the same at a cost of \$9,368,000.
3. Extension of cast iron mains to eliminate dead ends and replace private extensions at a cost of \$2,035,000.
4. Cleaning and lining of trunk mains at a cost of approximately \$2,000,000.
5. Installation of post-chlorination systems at filter plants and cleaning of reservoirs—\$1,909,000.
6. Improvements to main pumping stations—\$2,857,000.
7. Reconstruction and additions to filter plants—\$22,055,000.
8. Rehabilitation of booster plant system—\$775,000.
9. Installation of extensions to the distribution system—\$8,522,000.
10. Miscellaneous improvements totaling approximately an additional \$1,314,000.

Sewage Disposal Program

Of undoubted benefit to the future water supply of the City is the extensive sewage treatment program now under way by the Department of Public Works. The greatest program of its kind ever attempted by the City, it cannot help but reduce the degree of pollution of our present sources. Authorized at the recent primary by the elec-

torate, it contemplates a \$42,000,000 program including the following improvements:

1. Addition of 52 miles of collecting conduits.
2. New treatment works for the Northeast with a capacity of 125 m.g.d.
3. New Treatment works in Southeast Philadelphia with a capacity of 140 m.g.d.
4. New treatment works in Southwest Philadelphia with a capacity of 133 m.g.d.

On Wednesday, May 1, the Commission, its Board of Consulting Engineers and its Special Council met with City Council. The two reports of the Board of Consulting Engineers, dated November, 1945 and April, 1946 were reviewed at this meeting by members of the Board. Our engineers gave members of Council what we believe was a clear and concise picture of the Water Works Improvement program and the Wallpack Bend project, details of their construction and a breakdown of costs of construction and operation.

City Council delegated its Committee on Public Works, headed by Councilman Phineas T. Green, to hold public hearings on the water problem to start May 14, 1946. In addition, they ordered this Commission to make a final report.

This report we herewith respectfully submit.

THE PHILADELPHIA
WATER COMMISSION.

Water Board Urges New, Pure Supply

Mayor's Board Fixes Cost At \$284 Millions

Asks City to Pre-empt Wallpack Bend Site

Text of the Water Commission report on Page 10.

Mayor Samuel's Water Commission, in its final report yesterday, urged the city "to take immediate steps to pre-empt the Wallpack Bend site for Philadelphia's use, to forestall such action by others."

500 Million Gallons a Day

The Commission's report stated the Wallpack Bend site (near Bushkill, Pa.) would provide Philadelphia with 500 million gallons of pure water a day for many years to come. It empha-

sized, however, that the first step in giving Philadelphia a better supply of water should be to improve the filtration and distribution of the present system as rapidly as possible.

The Commission's report filled a 16-page brochure. It represented the findings of a Board of Engineers which had made a study of the present water supply and upland sources for more than a year.

It offered a program of three stages:

(1) Rehabilitation of the present system as soon as possible to eliminate taste, odors and color.

(2) Adoption of a long range program "of improvement and addition to our present water supply" as soon as the present plant is improved.

(3) The recommendation that the best new source of supply is the upper Delaware River at the point known as Wallpack Bend.

The Commission pointed out the cost of the difficulties in adopting the Wallpack Bend project.

Cost Fixed at \$284 Million

It fixed the cost of that project at \$284 million, including a tunnel which would carry the flow of water from Wallpack Bend to a proposed reservoir near Warrenton, in Bucks county.

If the tunnel were eliminated from the final plans and the water allowed to flow in the bed of the Delaware from Wallpack to a point near Trenton, the cost would be reduced by about \$155 million.

Cost of rehabilitating the present water supply system was estimated at about \$84 million, which the Commission points out will have to be done whether or not a new source of supply is decided upon.

Mayor Cool to Wallpack Plan

That the Mayor is not favorably inclined toward the Commission's recommendation that the city pre-empt the Wallpack Bend site was made fairly clear in his letter accepting the report.

He spoke of the promise made by the State government to clear up the existing sources of supply—the Delaware and Schuylkill Rivers. He emphasized the fact that work has already begun to improve the present distribution system.

"Chart for Many Years to Come"

The only reference he made to any upland project was in praising the completeness of the commission's report. He said:

"It is the first time that a complete survey has been made of the water situation as it relates to the city of Philadelphia and it is also the first time that

Continued on Page 9, Column 5.

Pure Source of Water Urged on City by Board

(Continued From First Page)

reports have been produced which will be a chart for many years to come, regardless of whether the city receives its water from an upland source or whether it shall continue to flow through our mains from present sources after they have been improved."

Surveys Cost \$135,000

The commission's report was based on two voluminous surveys by its board of engineers, for whose work the city appropriated \$135,000. Four redrafts of the original commission report were required, it is understood.

In general, the commission has followed the recommendations of the Bureau of Municipal Research, which, at public hearings, urged that taste, odor and color be eliminated from the existing, urged that taste, odor and of an upland project.

Another upland source was proposed by the Lehigh Coal and Navigation Co., which owns ex-

tensive lands and water rights on the Upper Lehigh River. The commission's engineers rejected this because they said the yield was too small, that filtration would be required and that the costs were underestimated.

Later, a public hearing was held on this proposal, as a result of which the Commission said it went into the project very thoroughly and decided that the plan "was not the one which would best serve the interests of the city as an upland source."

During the existence of the Commission, two city Directors of Public Works, who were ex officio members, have died—John H. Neeson and Martin J. McLaughlin. Ernest V. D. Sullivan, the original chairman, died, too. He was succeeded by Herbert W. Goodall, president of the Tradesmen's National Bank & Trust Co.

Two Contracts Awarded

Meantime, the Department of Public Works announced the awarding of two contracts furthering the improvement to the water supply system.

One is for a pump foundation and piping connections for the Queen Lane temporary pumping station, which was awarded to James N. Driscoll for \$27,700. The other is for plumbing installations at the Fox Chase booster pumping station. It was awarded to Edward F. Roberts for \$8200.

Two contracts still under investigation by the department are for ozonation equipment at the Belmont filter plant and electrical equipment for the temporary pump house at Queen Lane.

Let People Decide on Water Sources

The people of Philadelphia should decide for themselves, by ballot, where this city is to obtain its supply of drinking water—whether from the present polluted sources or from upland streams.

The final report of the Mayor's Water Commission does little more than confront Philadelphia with the same old choice: keep what we have and try to improve it, or spend several hundred millions of dollars to obtain a new and much cleaner supply.

It is up to the people to act on that choice. By giving their judgment at the polls they will be taking the water problem for the first time out of the realm of surveys, reports and conflicting recommendations in which it has been enmeshed for years.

They will be telling the city government exactly how they want water supply handled, removing the doubts and confusion on this score that have delayed improvements over the years.

They will be making it impossible for shyster politicians now out of office, and their shyster allies, to make the subject of better water for Philadelphia a political football.

There is no difference of opinion concerning the recommendation of the Water Commission for immediate rehabilitation of the filtration and distribution systems.

It is what would come after this preliminary improvement that is most vital to Philadelphians. The Commission, as the next step, urges a long-range program that it states would bring the present system "to the peak of efficiency needed to supply pure, palatable water." The cost would be \$63,000,000, or \$87,568,000 should the Schuylkill River be abandoned as a source and dependence placed entirely on the Delaware.

If, thereafter, the city desires an upland source, it is the Commission's opinion that the best location would be the upper Delaware River near Wallpack Bend. It concedes the water from there would be a great improvement over the present product and it places the cost at \$284,588,000.

But this plan is hedged about with difficul-

ties. An agreement with New York and New Jersey for the diversion of the water would be needed and Congress and the Supreme Court might have to pass on the matter, with consequent delays. More serious are the legal obstacles to condemning land required in the two other States.

The Commission says pointedly that if for legal reasons the Wallpack Bend project proves impractical, and the city still desires an upland source, "it will be necessary to select a source within this Commonwealth."

The Commission is not very helpful at this point. What source within Pennsylvania would be most suitable? It dismisses as unsatisfactory the so-called Lehigh plan, insisting that the sponsors' cost estimate of \$142,000,000 is too low.

It does state, however—in a terse footnote—that the upper Lehigh, Bear Creek and Mud Run as sources, supplemented by waters from the upper Perkiomen, will furnish 500 million gallons per day of acceptable water at a cost of \$377,240,000.

Is this to be considered the best available source within Pennsylvania? It is a pity the Commission has not devoted more attention to this site, instead of contenting itself with a footnote.

The people should be given the opportunity to express their wishes in the matter in a referendum placing the issue before them in unambiguous terms. If they are willing to continue taking their drinking water from the Delaware River docks, they should make that decision clear. If they want the city to obtain water from upland streams, they should vote for such a step.

If the majority favor new sources, the city government should stop trying to patch up the existing system at cost of many millions and concentrate upon a new source that would give us the best possible water at the lowest possible price.

But let the people determine what should be done. They drink the water and pay the bills for it. They should decide what kind of water they will have.

Shall We Wear Patches The Rest of Our Lives?

The Mayor's Water Commission has made its final report—a very clearly written and understandable survey. It appears on another page of The Record. If you are tired of drinking "chlorine cocktails" you ought to read every word of it.

The Mayor accepts the report with warm thanks, justly praises the Commission for its hard work. And then he says the report "will be a chart for many years to come, regardless of whether the city receives its water from an upland source or whether it shall continue to flow through our mains from present sources after they have been improved."

We're afraid the Mayor misses the main point of the Commission's report.

He speaks of improving the "present source"—the polluted Delaware and Schuylkill rivers—as though the Commission recommended that project as one proposal for solving Our Town's water problem. Then he refers briefly to the Wallpack Bend project as though that were an alternate proposal.

* * *

The fact is—and the Mayor concedes it in his letter to the Commission—that the improvement of our present source of water supply is an imperative necessity which must be done as quickly as human skill and sweat can accomplish it. It would have to be done if the Mayor had never appointed a water commission. You only have to taste our water—and smell it—to be convinced of that.

The Commission's suggestions for making this necessary improvement are specific and are probably the best program that could be devised.

But it is like putting a huge patch on the back of your seatless pants as a temporary measure, so you can walk to the tailor's and be measured for a new suit of clothes. Sure, seatless pants must be repaired but that doesn't mean you need go on through life wearing a 12 by 14-inch patch on your posterior.

When the Mayor talks of the Commission's report being "a chart for many years to come" he sounds a little bit like a man who is reluctantly deciding he can't afford a new pair of pants.

* * *

The most important part of the Water Commission's report and the greatest amount of space are devoted to the Wallpack Bend project. Briefly it would provide Philadelphia with 500,000,000 gallons of pure water a day from mountain streams. The Commission's engineers, in surveying this project, set up 39 sampling stations and substations on more than a dozen creeks and rivers. Their figures have been checked and rechecked.

In proposing a pure water supply for two million people, the Commission looks forward not to next year or to 1955, but to 2000 A. D.

The engineers and the Commission endorsed the Wallpack Bend project as "the best upland project."

Yes, it will cost a lot of money. The estimate is \$284 million. It will require 10 or 12 years to complete. **BUT WE'LL HAVE SOMETHING.** And we can pay for it at a rate of a few pennies a day per family.

Philadelphia would then be noted for its sparkling supply of drinking water instead of being notorious for its odoriferous supply of filtered sewage.

* * *

Who is to decide whether or not to act on the Water Commission's report on the Wallpack Bend project? The Mayor? City Council?

No. The voters of this city at the primary next spring should have the final say on a pure water supply. The ballot should give the cost of the project.

There CAN be alternatives on that question. Whether the water comes from Wallpack Bend to Philadelphia through a tunnel or whether it would flow part way in the present bed of the Delaware above Trenton, where the pollution is very slight, would make a difference of a few million dollars.

But let nobody—least of all the Mayor or City Council—ignore or bury the Water Commission's report on Wallpack Bend. It is too important an issue to be kicked around.

The people, who will have to foot the bill, should make the decision.

Mayor Asks Public Poll On Water Supply; Some Want Council to Decide

Mayor Bernard Samuel and three influential members of City Council yesterday threw their weight behind proposals for submitting to public referendum the development of a new water supply for Philadelphia rather than leave the decision to City Council.

Following the report of the Mayor's Water Commission, recommending that treatment of water from present sources in the Delaware and Schuylkill be placed ahead of any plan for a new upland source, all four city officials called for public decision at the next election.

SPLIT ON REFERENDUM

Other civic, industrial, labor and political leaders split sharply on the question whether the choice should be voted on by the people or left entirely to Council.

The Water Commission had recommended the \$284,588,000 Wallpack Bend project as a new upland source, only after steps to rehabilitate the present water supply had been completed.

Mayor Samuel was emphatic on the need for a public referendum.

"At the time I appointed the

Continued From First Page

Water Commission," Mayor Samuel said, "I felt that the matter should be submitted to a vote of the people. We tried to accomplish this in the May primary.

"I still feel the matter is so important that it should be submitted to a vote of the citizens."

The water question was dropped from the ballot for the May primary on the ground that the public had not had sufficient time to become acquainted with all of the facts.

WANTS PEOPLE TO DECIDE

Councilman L. Wallace Egan, chairman of the Finance Committee, said he felt "very definitely" that the question should be submitted to the people.

"The expense of developing a new upland water source is so great," Egan said, "that the people should be permitted to speak for themselves in deciding whether the city should undertake such a project."

CALLED 'ONLY ANSWER'

Councilman Cornelius S. Deegan, Jr., chairman of the Public Welfare Committee, called for a referendum as the only answer in keeping with "democratic practice."

"The people must be permitted to answer yes or no," he asserted, "in view of the magnitude of the amount involved."

Councilman Clarence K. Crossan, chairman of Council's Public Safety Committee, was even more emphatic in favor of the public vote.

CROSSAN URGES SPEED

"In a major project such as this," Crossan said, "which will affect the people of Philadelphia for the next 50 years or more, the question definitely should be submitted to the people.

"Once the decision is made, we must proceed as quickly as time and money will allow to get the job done."

Herbert W. Goodall, chairman of the Mayor's Water Commission and president of the Tradesmens National Bank and Trust Co., was among those to speak out against the referendum.

DIFFICULTY OF PHRASING

"I feel very definitely that the people cannot gain enough information to make a proper decision on this important question," Goodall said. "Consider the difficulty of phrasing the public question on the ballot as only one example. How could it be phrased adequately to inform the public of the question that was to be decided?"

In urging that the decision be left to City Council, Goodall said

that he at first had been 100 per cent convinced himself that a new upland water source was needed.

OPPOSITE CONCLUSION

"But after months of study of the intricate problems involved," he said, "I have come to an exactly opposite conclusion. Our present sources can be made to supply Philadelphia with good water."

Michael Harris, president of the Industrial Union Council of Philadelphia (C.I.O.), one of the labor leaders who commented on the Water Commission's report, favored submitting the question to referendum.

'UP TO PEOPLE TO DECIDE'

"The Water Commission has compiled all the necessary information," Harris said. "The facts are there. Now it should be up to the people to decide how much money they want to spend for a new water supply."

James L. McDevitt, president of the State Federation of Labor (A.F.L.), urged that the question be submitted to Council for decision "in view of the engineering problems involved and the millions of dollars that must be expended on a new upland source."

COUNCIL CHOICE FAVORED

"Nominally, I would be in favor of a referendum on most public questions," McDevitt said, "but in this case the professional advice of competent engineers should be heeded. Council can give the question more adequate study and make a more intelligent decision."

In Washington, U. S. Senator Francis J. Myers (D., Pa.) said the question was "clearly one that should be left to the judgment of the public."

HARRIS BACKS COUNCIL

At Harrisburg, David H. Harris, State Secretary of Revenue and chairman of the Philadelphia Republican City Committee, called for decision by City Council.

"Members of Council are the elected representatives of the people," Harris said, "and as such it is their duty by law to represent the public in a matter of this kind. The complications are such that the public decision would be difficult to form, while Council has the advantage of

months of study in making its decision."

Walter Miller, chairman of the water committee of the Citizens Council on City Planning, said the question was one "which cannot be submitted to public decision because of the ramifications and complications involved."

"The public could not be aware, for instance," Miller said, "that water nowadays is virtually a manufactured product. With new methods developed, virtually any water can be made potable. The experience of our armed forces in the recent war proved that."

BACKS COUNCIL DECISION

George W. Elliott, assistant to A. L. Hallstrom, president of the Chamber of Commerce and Board of Trade, and a member of the Chamber's Water Committee, also backed decision by Council.

"In my opinion," Elliott said, "this is a technical question which must be decided by Council. The public made its decision when it voted a bond issue to be expended by Council on water improvements."

PHILADELPHIA INQUIRER.

NOVEMBER 14, 1946

Opinion Still Split On Steps Toward Better City Water

City Councilmen and other political, civic, industrial and labor leaders of the city remained divided yesterday on whether Philadelphia's choice of a future water supply should be left to the decision of Council or decided by a public referendum.

As the report of the Water Commission, which relegated development of new upland water sources to an indefinite future status, was referred to Council's Public Works Committee, the dispute went on among local leaders.

MEEHAN BACKS PUBLIC VOTE

Sheriff Austin Meehan, Republican leader in the Northeast section, joined Mayor Bernard Samuel and one influential group of Councilmen in urging that the decision on a new upland source be left to the public.

But Frederic D. Garman, president of City Council, and Phineas T. Green, chairman of Council's Public Works Committee, joined an equally strong bloc opposing the referendum.

3-STEP PROGRAM URGED

The Water Commission's report, which touched off the controversy, recommended a three-step program beginning with improvement of treatment of water from existing intakes on the Schuylkill and Delaware River. This first stage would cost between \$10,000,000 and \$12,000,000.

The second stage, involving extension and improvement of present water filtration plants, would cost an estimated \$62,568,000.

The first two steps would involve an increase of about 13 percent in average water bills throughout the city.

As a third step, contemplated only

Leaders Remain Split On Phila. Water Issue

Continued From First Page

after completion of the first two, the Water Commission recommended the \$284,588,000 Wallpack Bend project, involving creation of a 30-mile-long reservoir on the Delaware River near Bushkill.

The Water Commission held that this would be the 'best source of water,' if the city decides to go into the uplands for its future supply.

COUNCIL DECISION BACKED

Proponents of the referendum feel that the people should decide whether water from the upland source would be worth the additional expenditure. Opponents of the referendum believe that Council can best decide whether or not a new upland source should be sought.

Sheriff Meehan said that in view of the heavy expenditures involved, the question "should be left up to the people," and he suggested that a special referendum could be called.

SAYS IT'S UP TO PEOPLE

"In a project of this kind, which so directly affects the public," Meehan said, "I feel the people should decide whether or not they want to go to the expense of creating a new water supply."

Councilman Green, on the other hand, said he felt the responsibility rested with Councilmen as the representatives of the people.

In any event, Green said that decision should await completion of the first two stages of the program, which the Water Commission contends will provide an adequate supply of good water for the city.

'CLEARLY' UP TO COUNCIL

Council President Garman asserted that the decision "clearly" was up to Council. He was joined by Councilman David Jamieson, who questioned the city's legal right to submit the question to referendum and added:

"We were elected to do a job. This is part of it. We are committed to a \$10,000,000 improvement program. The sane procedure would be to await results of this program before deciding upon any future improvements."

COUNCILMEN DIVIDED

Councilman Charles O'Halloran and James G. Clark favored submitting decision on an upland source to referendum, but Councilman George W. Rue preferred to leave the choice to Council.

"The public easily might vote for

an upland source," Rue said, "then complain very bitterly about the future costs of such a project."

Councilman Henry J. Trainer urged that results of the initial program be awaited before considering upland sources.

ASKS WIDESPREAD PUBLICITY

Mrs. Dorothy Schoell Montgomery, executive director of the Philadelphia Housing Association, favored submitting the question to referendum "after a very extensive publicity program to acquaint the public with all phases of the problem."

John M. Zerbey, president of the Home Builders Association of Philadelphia and Suburbs, expressed the opinion that the complex problems of a new water supply would make decision by the public "a very difficult matter."

CAREFUL STUDY MADE

"Council would do well to follow the unbiased decision of disinterested parties who have made a very careful study of the water situation," Zerbey said.

James B. Kelly, executive director of the Philadelphia Housing Authority, favored the referendum plan.

"This is a very big undertaking," Kelly said, "and it will be the people who must bear the burden of its cost. It seems only fair that the public be permitted to decide the issue."

LABOR LEADERS DIVIDED

George Craig, regional C.I.O. director, also backed the referendum proposal.

"The result, basically," Craig said, will be that the people will decide how much they want to spend for Philadelphia's future water supply."

Joseph A. McDonough, business manager of the Central Labor Union (A.F.L.), and recently sworn in as a member of the Board of Education, took an opposite stand.

"The members of City Council and the members of the Mayor's Water Commission are representative citizens of Philadelphia," McDonough said. "They have had the benefit of the technical advice of trained engineers. As a result, they are best equipped to make the proper decisions."

Harry Butcher, executive secretary of the Committee of Seventy, said his group was very strongly opposed to the referendum plan, which he characterized as taking a "public opinion poll at the expense of the taxpayers."

FEW WELL-INFORMED

"The Mayor and members of City Council have been chosen to represent us. Why throw this highly technical question into the laps of the people?"

By contrast, Judge Grover C. Ladner, a member of the Water Commission, felt that the public could decide between present sources and a new upland supply. He opposed limiting the upland choice to Wallpack Bend.

Murdoch would serve as consultant, the Mayor said, in working out the legal problem of acquiring land in the Wallpack Bend area for possible future use. His compensation was set at \$30 an hour for time spent in the city's service.

MURDOCH SELECTED

Mayor Samuel yesterday submitted to City Council the name of Frank B. Murdoch, special counsel to the Water Commission, for appointment as special counsel to the city.

Murdoch would serve as consultant, the Mayor said, in working out the legal problem of acquiring land in the Wallpack Bend area for possible future use. His compensation was set at \$30 an hour for time spent in the city's service.

Mayor and Harris Disagree Over Water Program

Samuel Favors Giving Voters Final Say On Upland Source

Shall the people or City Council decide whether Philadelphia will have a new, pure source of water or merely rehabilitate the present system?

That question brought forth wide differences of opinion yesterday.

Mayor Samuel favors submitting the plan of the Mayor's Water Commission to the voters at a referendum at an early date. Republican City Chairman David W. Harris insists it is the duty of City Council to make the decision.

Councilmen Can't Agree

There was disagreement among members of Council.

L. Wallace Egan, chairman of the Finance Committee, favors a referendum. He is supported by Councilman Charles A. O'Halloran. Councilman Henry J. Trainor favors action on Council.

Judge Grover C. Ladner, a member of the Mayor Water Commission, supported the Mayor's plan for leaving the question to a vote of the people. He believes the question should be on the simple one of continuing to use the local supply or providing a new upland source of supply.

"I would also put in an estimate of the cost — say \$300 million or more," the Judge said. "I think we ought to leave the Wallpack Bend project out of the referendum. In my opinion it can never be developed except as a joint enterprise among the States of Pennsylvania, New Jersey and New York."

The Commission's report was released last Tuesday and referred without comment to the Public Works Committee of Council. Phineas T. Green, chairman, said he would call an early meeting.

Following a recommendation of the commission, the Mayor today asked Council to retain Frank B. Murdoch, the commission's counsel, as special counsel for the city to assist in pre-empting the Wallpack reservoir site, should the city ever need it.

The reservoir, 30 miles long, would impound the waters of the Delaware River near Bushkill. Land in Pennsylvania, New Jersey and New York States would have to be bought or condemned.

Murdoch's compensation will be at the rate of \$30 an hour.

Why Harris Opposes Vote

GOP Chairman Harris said the question of mountain vs. local water is too technical and complex to be decided in a referendum.

"Members of Council are the elected representatives of the people," Harris said, "and it is their duty by law to represent the public in a matter of this kind."

"The complications are such that the public decision would be difficult to form, while Council has the advantage of months of study in making its decision."

The Mayor said:

"At the time I appointed the Water Commission, I felt that the matter should be submitted to a vote of the people. We tried to accomplish this at the May primary. I still feel that the matter is so important that it should be submitted to a vote of the citizens."

Green Would Delay

Councilman Green said he prefers to await the outcome of the city's \$10,000,000 first stage interim improvements. This, he said, may eventually cost \$15,000,000.

"I certainly am not in favor of saddling an additional expense on the people, any more than I would on myself," Green said. "So far as I am concerned, this is not time to debate whether Council or the people should decide if we are to get a new source."

Councilman David Jamieson said he was opposed to the mountain water project. He said people are interested in the taste and odor of the water, not where it comes from. As proof, he pointed to the meager attendance at the public hearings.

Don't Side-Track the Public on Water

Mayor Samuel is to be commended for throwing the weight of his Administration behind The Inquirer's proposal that decision on a new water supply for Philadelphia be left to the people in a referendum.

A number of Councilmen have also been quick to come forward with indorsements of this plan as the most logical as well as democratic method of settling forever the question whether this city is to continue drawing water from present polluted sources or go to upland streams for it.

The final report of the Water Commission leaves that question as far up in the air as it ever was. While choosing the upper Delaware River near Wallpack Bend as the best available upland source, the Commission points to the legal and other obstacles that may make that project impractical, and it centers its recommendations upon rehabilitation of the existing system.

Should Council accept the report and go no farther, development of an outside supply would be postponed indefinitely. It would commit the city instead to a patch-up job on the system we now have at a cost, if the Schuylkill is abandoned as a source and all the supply taken from the Delaware within the city limits, estimated at some \$83,000,000.

The majority of Philadelphians may be satisfied to drink Delaware water, dosed with chemicals to make it non-lethal and otherwise treated in an effort to reduce the tastes and odors that now make it offensive.

They may not believe it worthwhile to expend from two to four hundred million dollars to build an entirely new system tapping the clean waters of some upland stream.

But they should be given a chance to express their wishes in the matter. The fair way to assure that is by a referendum either at

the next regular election or at an election specially called.

Objection has been made that it would be difficult to phrase the question clearly and intelligibly. But there is no need to make the referendum complicated. The people can be asked to vote either to retain the present water source in the hope it will be cleaned up sufficiently or to spend the money necessary to develop an outside supply.

The last time a water referendum was proposed, for the May primary, the suggested phraseology was so one-sided that it aroused a storm of protest and was withdrawn. The voters were to have been asked to decide between "safe and palatable" water from existing sources at a cost of \$63,000,000 and supposedly equally "safe and palatable" water from an upland source at cost of \$285,000,000.

If the quality of the water were to be the same, preference naturally would have been given to the less costly project. But it was obviously unfair to say that water from the sewage-laden lower Delaware and that from some uncontaminated up-State stream is the same thing.

It could be made clear to every citizen what he would be voting for and against in the proposed balloting. The public is not ill-informed on this subject, as some opponents of a referendum seem to fear. Philadelphians have had ample first-hand information on city water, right from the taps. They know, too, from the many published reports that water from outside cannot be obtained cheaply.

Let the people be the judges. If they are satisfied with the present system, the city can apply itself to making the best of what we have. If they want upland water, the city can concentrate upon obtaining it for them. But the people are the ones who should decide.

Debate in City Continues On Water Referendum

Both sides gained adherents yesterday in the controversy over whether Philadelphia's future water supply should be decided by City Council or submitted to public referendum. H. Walter Graves, president of the Philadelphia Real Estate Board, spoke out against the referendum plan, but both A.F.L. and C.I.O. leaders backed public decision on the vital water question.

UPLAND SOURCE BACKED

The controversy has raged since the Water Commission's report was submitted two days ago, proposing that present treatment methods be improved and that development of an upland supply be left to some indefinite future date.

Joseph E. Mears, president of the Philadelphia Hotel Association, while calling for decision by City Council on the question, urged that Council select and develop an upland water source.

LONG-RANGE VIEW URGED

"We have had a full and comprehensive report from the Water Commission on the various phases of the water situation," Mears said. "Now

it is up to City Council to make the decision. I believe that decision should include a long-range view of the future water needs of Philadelphia and steps to guarantee a future upland source."

George Bucher, business manager of the Hotel, Restaurant, Building Service and Maintenance Workers (C.I.O.), supported the referendum plan as did Sal B. Hoffman, international president of the A.F.L. Upholsterers Union.

PUBLIC DECISION BACKED

"In a matter as important as the future water supply of the city, essential to the health and well-being of every citizen, it should be the right of the people to voice their opinion," Bucher said.

Hoffman urged that the referendum proposal be adopted as a means of bringing quick settlement of the city's water plans.

Charles Langerman, president of the South Philadelphia Realty Board, also threw his support behind proposals for a public decision.

PEOPLE SHOULD DECIDE

"I feel very strongly that the public must decide," Langerman said. "City Council, after all, is only a group of 21 men. It is subject to pressure and its members can make mistakes."

"On this vital issue I feel that the voice of the people should be the deciding voice."

In Atlantic City, Graves, as president of the Philadelphia Real Estate Board, took an opposite stand.

MATTER CALLED TECHNICAL

"The matter of a better water supply for Philadelphia should be submitted to City Council for careful study and analysis of the reports of the Water Commission and of engineers who investigated the subject thoroughly," Graves asserted.

Fred P. Whitney, executive director of the Philadelphia Restaurant Association, expressing his personal opinion, balked at submitting the water question to public vote.

"The public is not acquainted with the technical matters at stake," Whitney said. "I feel that a referendum on this question would be out of the question."

COUNCIL WINS SUPPORT

Judge Harry S. McDevitt, joining a number of other civic leaders who have commented on referendum proposals, joined the contingent advocating decision by City Council.

"City Council members are the chosen representatives of the people. Under our representative form of government, these men should make the decision," Judge McDevitt said.

Mayor Bernard Samuel and three leading members of City Council, including L. Wallace Egan, chairman of the powerful finance committee, had previously urged that the people be left to decide.

LONG STUDY CITED

In a letter to Mayor Samuel yesterday, Walter P. Miller, Jr., chairman of the water committee of the Citizens Council on City Planning, questioned the referendum proposal.

"Our Commission, a representative group of able men, has studied the recommendations of scientists and engineers over a considerable period of time," Miller wrote. "It is hardly reasonable to expect the voters to do the same."

The Bulletin Poll

(Continued from the First Page)

only 44 per cent of the men feel that way.

The fourth question asked was: "If mountain water is brought to Philadelphia it will still have to be filtered and chlorine added. Under these circumstances do you approve or disapprove of spending \$300,000,-000 for up-state water?" The answers:

Men Women All

Approve	57%	47%	52%
Disapprove	30	30	30
Don't know	13	23	18

Owners Tenants

Approve	52%	52%
Disapprove	32	27
Don't know	16	21

By Income Groups

	Above Average	Average	Below Average
Approve	61%	50%	51%
Disapprove	32	32	25
Don't know	7	18	24

Another Question

Those who approved getting water from an up-state source were asked: "Would you be willing to pay higher water rent to get mountain water?"

The replies:

Men Women All

Yes	80%	61%	72%
No	13	22	17
Don't know	7	17	11

In terms of all the people talked to this represents approval of higher water rent by 37 per cent. Those who disapproved of the up-state source were not asked the question about higher water rates.

Broken down as to home ownership and income groups, the replies were:

Owners Tenants

Yes	73%	71%
No	19	12
Don't know	8	17

By Income Groups

	Above Average	Average	Below Average
Yes	83%	68%	72%
No	10	20	15
Don't know	7	12	13

Various Projects

The approximation of \$300,000,000 as the cost of a mountain or up-state supply has been given by engineers. Several schemes for bringing such water to Philadelphia have been advanced, including the Wallpack Bend plan, to which legal obstacles have been cited; a plan to take water from the Delaware River at Yardley, and another to use lakes in the Poconos.

Interviewing in this poll took place Monday and Tuesday of this week, and was conducted in the homes. No random interviewing was done on the streets and the cross-section was compiled with the same technique used in previous polls which have been shown to have a high degree of accuracy.

THE BULLETIN POLL

52% of People Here Think Cleanup of Rivers will Give Good Water

A Majority also Indicates Willingness to Pay Higher Costs to Obtain Supply from Upstate

By PAUL TRESCOTT

(Of The Bulletin Staff)

Philadelphians, in the main, want up-state water and are willing to pay for it, though they would be satisfied if present sources are cleaned up.

Those opinions highlight a special Bulletin Poll on the feelings of a cross-section of the city's adults on the water question. This poll also showed:

Seventy-nine per cent of the people talked to are not satisfied with the water they get now.

Fifty-two per cent said they believed that cleaning up the rivers would give satisfactory water.

Fifty-two per cent also said they approved going up-state for water even though it would cost five times as much as the river cleanup.

Seventy-two per cent of those who approved an up-state source said they would be willing to pay higher water rent to get such a supply.

Virtually no difference was found in the opinions of men and women on the satisfactory quality of present water, but substantial differences are shown between home owners and tenants, and in different income groups.

When asked "Are you satisfied with Philadelphia water?", only 14 per cent of the home owners said "yes." Twenty-four per cent of the tenants talked to gave that answer. People classified as having above average incomes were 90 per cent

dissatisfied; those listed as average, 80 per cent dissatisfied, and the under average group, 69 per cent dissatisfied.

More Men Men Proposal

Sixty-one per cent of the men, but only 39 per cent of the women had read or heard of the Water Commission's report. Fifty-three per cent of the home owners and 43 per cent of the tenants had read or heard of it; so had 70 per cent of the above-average income group; 49 per cent of the average group, and 38 per cent of the under-average group.

The third question asked in the survey was: "Philadelphia water is obtained from the Delaware and Schuylkill Rivers. The Commission recommends that about 62 million dollars more be spent to clean up present water sources. Do you think this would make city water satisfactory?"

The replies:

	Owners	Tenants	All
Yes	48%	60%	52%
No	31	22	28
Don't know	21	18	20

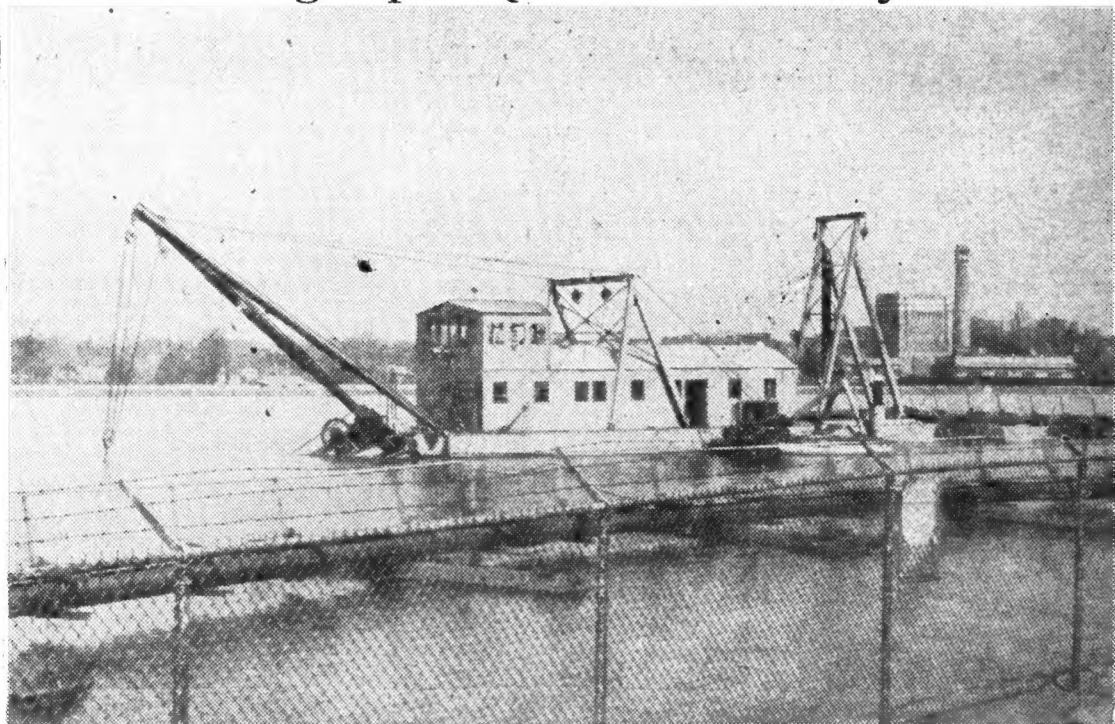
By income groups:

	Above Average	Average	Below Average
Yes	48%	49%	63%
No	33	29	21
Don't know	19	22	16

Fifty-nine per cent of the women thought the river cleanup would make the water satisfactory, but

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Flagship of Queen Lane Navy



Deepwater dredge "Big Queen" rides at anchor in Queen Lane Reservoir where her job is to dislodge 350,000 tons of silt and mud

Queen Lane Reservoir, 50 Yrs. Old Gets First Complete Cleaning

Deepwater Dredge, Hauled to Scene in 2 Sections and Reassembled, is Removing Tons of Silt

The Queen Lane reservoir is celebrating its fiftieth anniversary with a complete cleaning, the first in its history, and doing the work is a deepwater dredge hauled to the scene in two sections and reassembled by the crew of veteran river and harbor men.

In 1896, when the first water was pumped into the reservoir from the Schuylkill River, the huge, rectangular basin could hold 177 million gallons. By last November, when the cleaning project was started, its capacity had been reduced by more than half and 16 of the 30 feet depth held an estimated 350,000 tons of silt and mud.

Welded Together Again

To remove this gigantic deposit and yet keep the reservoir in operation was a problem that was solved only after months of planning by city officials and the entire staff of the Eastern Engineering Co., Atlantic City. The same firm last year cleaned the Torresdale Reservoir by dredging, but the basin's proximity to the Delaware River made it a

simple matter to bring the large dredge to the scene of operations.

It was finally decided to house the dredging machinery on a new steel hull, haul it in sections from Atlantic City to the Queen Lane basin and weld it together as it arrived. The scheme worked. Crew members raised an American flag on the rigging, unofficially dubbed their craft the "Big Queen," and started dredging.

To eliminate gas and oil exhausts into the reservoir the dredge is electrically powered. A flexible, 16-inch pipe with steel cutting blades digs into the sediment and it is discharged through several thousand feet of tubing which snake after the dredge on cylindrical pontoons.

The dredge crew, most of whom can close their eyes and describe every river and harbor along the east coast in detail, admit that they still feel startled when they scan the horizon only to see cars and buses rolling along Henry av. or Fox st. Working shift work, they sleep aboard, but go "ashore" either by walking atop the discharge pipes

or by pulling at the oars of a small boat.

To show the reservoir's part in the water system, Joseph E. Gill, the Water Bureau's principal assistant engineer, scooped up a beaker of water as it entered the basin from the Schuylkill. In this he dropped a few grains of aluminum sulphate.

Remove Up to 90% of Solids

"By doing this on a large scale, we remove up to 90 per cent of the floating solids from the water," he explained. "These impurities settle at the bottom of the basin and since Schuylkill River water has an average of 830 pounds of suspended solids for each million gallons of water you can see how such a deposit of silt could be built up in 50 years.

"This is the first, and a very important, step in water purification," Gill continued. "Clearing of the basin materially will improve operating conditions and quality of water at the Queen Lane filters and, since the State and the Federal Government are about to embark upon a joint project to clean up the entire length of the Schuylkill, the probability of any future silting of the basin here will be eliminated."

Contract specifications require that the work be carried out in such a manner as to cause no increase in the cloudiness of the water as it leaves the basin and daily tests show that this has not occurred despite the action of the dredging equipment. Nor has there been any interruption in service, water officials point out.

Serves 600,000 in Area

Serving as it does more than 600,000 users in an area bounded by Hunting Park av., south to the Navy Yard, and from the Schuylkill east to Broad st., the Queen Lane plant is the largest and most important in the city's system. Officials say, too, that it will be the key facility no matter what source of future water supply is selected for the city.

What threatened to be the biggest problem connected with the project, that of disposing of the silt, was turned into an asset when Martin J. McLaughlin, Director of Public Works, ordered it used to fill in the irregular land on the west side of Fox st., adjacent to the Queen Lane

filter plants.

To hold the almost fluid silt a perimeter of high earthen dikes was pushed up by steamshovels and bulldozers and special manholes erected. These manholes permit the water to pass into the sewers through wire covered inlets which are plugged up as the level of the ground rises.

Silt Could Fill Large Area

Director McLaughlin said the area from Fox av. to the Chestnut Hill branch of the Pennsylvania Railroad, and between Queen lane and Crawford st. could be filled to street level with the reservoir silt. New water treatment buildings will be added to those on the site and the entire area landscaped, he added.

Most of the undertaking, \$520,000, will be paid for out of the \$18,000,-

000 loan for water system improvement.

Both McLaughlin and Gill said they expect the Queen Lane cleaning to be completed by the end of June and disclosed they are contemplating similar operations in the Roxborough Reservoir.

Reservoir Cleaning Completed Yesterday at Cost of \$170,000

Removal of the sediment and silt in Roxborough reservoir was completed yesterday, at a cost of \$170,000.

Without interrupting service or increasing turbidity of the water an estimated 157,000 cubic yards of coal silt and muddy sediment accumulated in the north and south basins of the reservoir were transferred to an improvised lake opposite the site of William McMaster's service station, 8510 Ridge avenue.

A 15 inch, 600 horse power electrically-operated suction dredge pumped the residue hydraulically through a 16-inch pipeline carried on pontoons from the dredge to the reservoir embankment. From there the pipeline was laid to Lare street to Port Royal avenue, Harner street, Sunset avenue, then raised above Ridge avenue and lowered to the opposite side to specially constructed dikes located on land owned by the Houston estate.

Operating 24 hours daily, the work was completed in 100 days, with the exception of Sundays.

A previous cleaning attempt in 1927 by a method of draining one basin and flushing the muddy residue through pipes with a high pressure hose was disappointing, as much of the heavy deposit could not be removed, it was explained.

Built in 1891, the reservoir is bounded on the north by Port Royal avenue, on the east by Lare street, on the south by Summit avenue and on the west by Eva or Ann street. The rectangular receptacle is divided into two basins, designated north and south, each 900 feet long, 350 feet wide and 26 feet deep. Its capacity, nominally, is 147 million gallons at a 25-foot depth of water, but after 55 years of almost continuous use as a settling basin for the Schuylkill river rain water, that capacity has been reduced by 40 per cent in the south basin and 25 per cent in the north basin. Soundings made by engineers of the bureau of Water before dredging operations began showed an average depth of nine feet of sediment in the south basin and four feet in the north, or rated differently, 122,000 cubic yards in the south basin and 35,000 cubic yards in the north basin.

"This sizeable reduction in capacity resulting from deposition of silt in the basin bottoms is not surprising," explained a Water Bureau engineer, "when it is realized that the raw water from the Schuylkill river has an average daily turbidity or muddiness of 100 particles per million, that is 830 pounds of suspended solids per million gallons of water. Removal of 90 per cent of such turbidity in the settling basin after chemical coagulation accounts for the large accumulation of sediment." large coagulation of sediment."

The dredge especially was designed by Eastern Dredging company, Atlantic City. It is made of five welded steel sections hauled to the reservoir by truck, bolted together

to form the hull upon which are installed a demountable 15-inch 600-horse power, electrically-operated suction dredge and derrick with a superstructure added.

Two steps are made in the cleaning process. During the first, dredging done to within a few feet of the bottom; the second, close to the base. To prevent contact of the cutter blades with the reservoir floor, a steel shoe is fastened to the dredging boom.

Nineteen men led by Lamott Jones, foreman, Camden, alternated in 12 hour shifts.

At the terminal point of the pipeline is located the sediment disposal site which is part of the Houston property on Ridge avenue opposite Sunset avenue. Here the contractor constructed two dikes originally covering an area 600 by 400 feet. Earth from the area was used to build the embankments which ranged in varying heights due to irregularity of the ground but the dike tops are level. The pumped material flows into the dike to the north where solid particles settle rapidly and then through a slice into the south dike where further sedimentation takes place. Drainage from the latter dike is, led to the adjacent lowlands which slope to a small stream coursing to the valley and falling to the rivulet paralleling Wise Mill road to the Wissahickon creek at Valley Green. The residue in the sedimentation dikes will become a permanent fill on the Houston property.

The work is under the supervision of Elbert J. Taylor, chief engineer of the Water Bureau; Joseph E. Gill, principal assistant engineer and Edgar Tohlen, construction engineer, inspector of the progress of work.